SAMSUNG Electronics

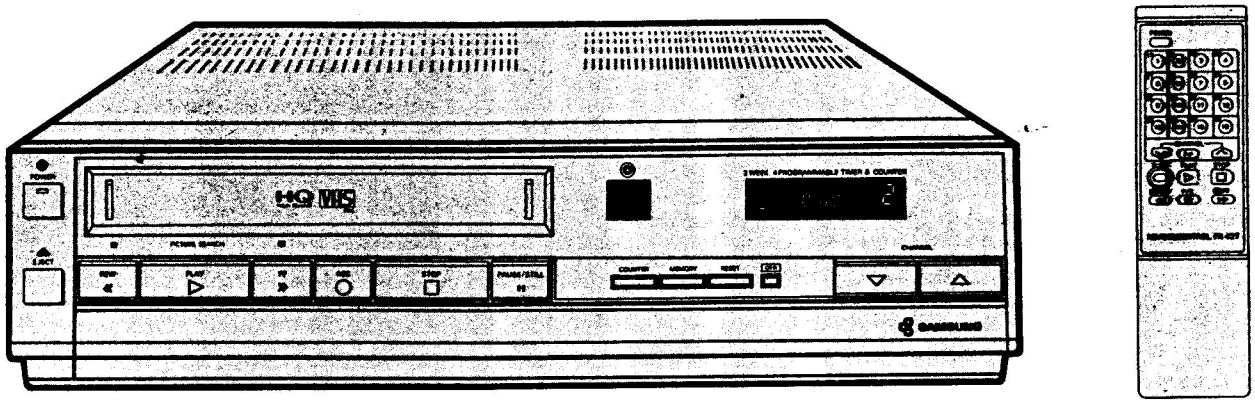
VHS HQ PAL

SERVICE MANUAL

SVX-301/VX-710/VB-710

SVM-P7-009-1E

VIDEO CASSETTE RECORDER



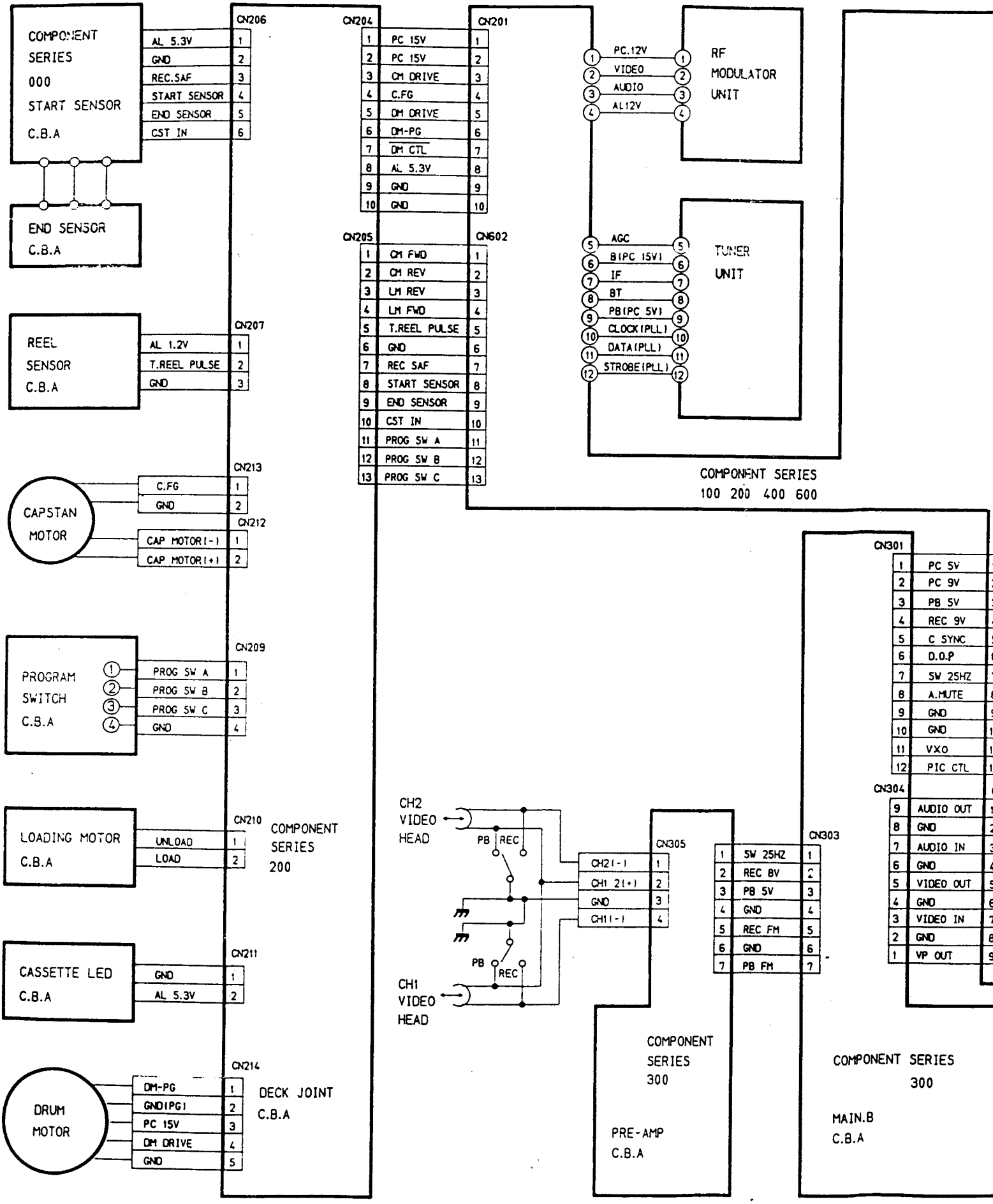
SPECIFICATIONS

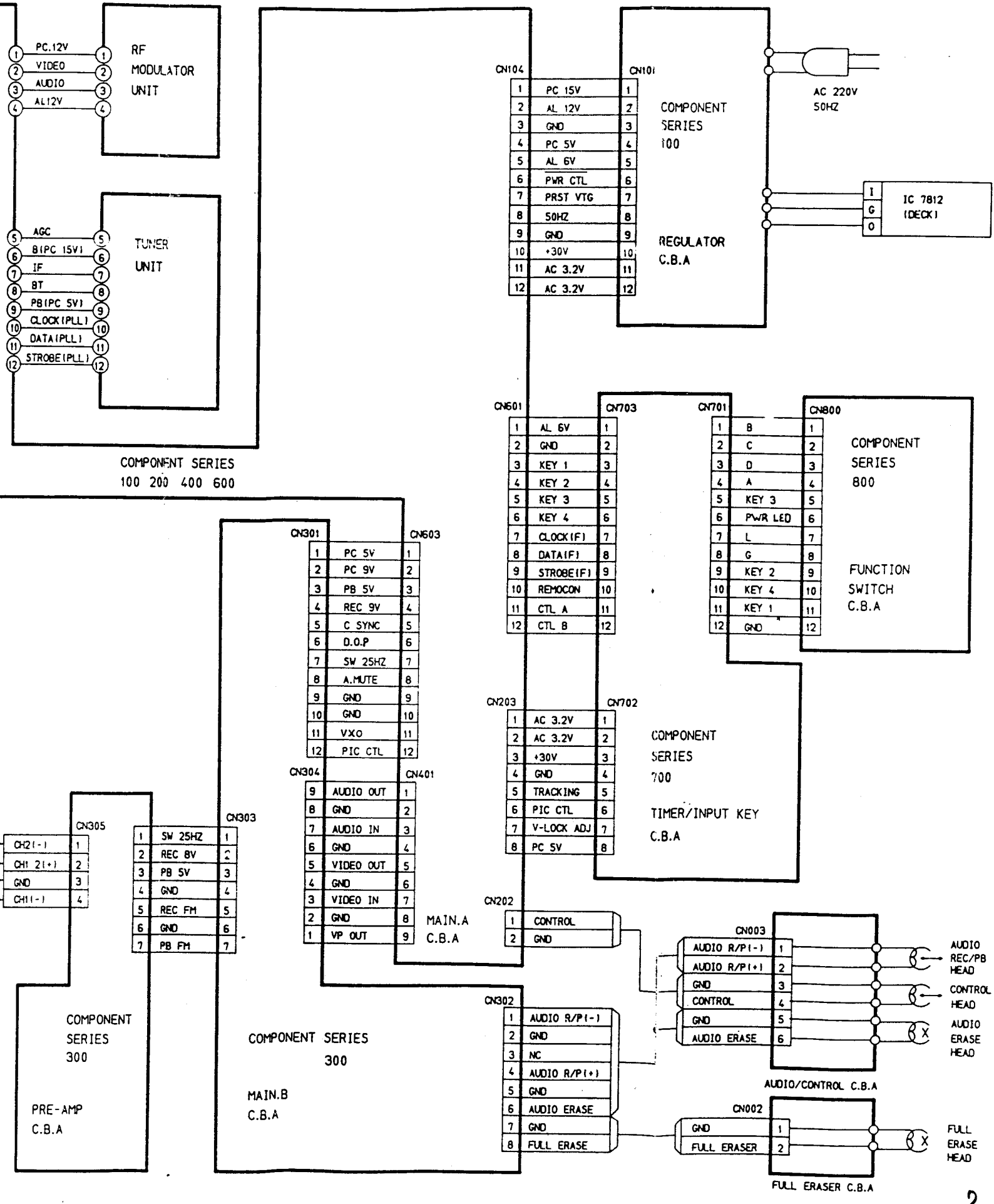
Format:	VHS PAL standard
Recording System:	Rotary, azimuth two-head helical scanning system
Television System:	PAL color and B/W signal
Tape Width:	12.65 mm (1/2 inch)
Tape Speed:	23.39 mm/sec
Record/Playback Time:	4 hours with E-240 Tape
FF/REW Time:	Less than 6 min. with E-180
Heads:	1) Video: 2 Rotary heads 2) Audio/Control: 1 stationary head (Mono) 3) Full track erase: 1 stationary head
Video	
Input:	0.5 to 2.0 Vp-p 75 ohm unbalanced
Output:	1.0 Vp-p 75 ohm unbalanced
Signal-to-Noise Ratio:	Better than 40dB.
Horizontal Resolution:	More than 240 Lines
Audio	
Input:	−8dBm, 50Kohm unbalanced
Output:	−3dBm 1Kohm unbalanced
Signal-to-Noise Ratio:	Better than 40dB
Frequency Response:	100Hz−8.0 KHz (−3dB)
Receiving channels:	VHF I, VHF III, UHF IV/V
RF Output:	CCIR UHF channel 32 to 40 (adjustable), Preset to 36
Power Requirement:	AC 220V, 50Hz
Operating Temperature:	5 to 40 DEG. C (41°F−104°F)
Operating Humidity:	10%−75%
Power Consumption:	Approx. 28 Watts (When the POWER button is OFF Approx. 7.0 watts)
Dimensions:	420 (W)×93 (H)×345 (D) mm
Weight:	14.55 lbs (6.6 kg)

Printed in Korea

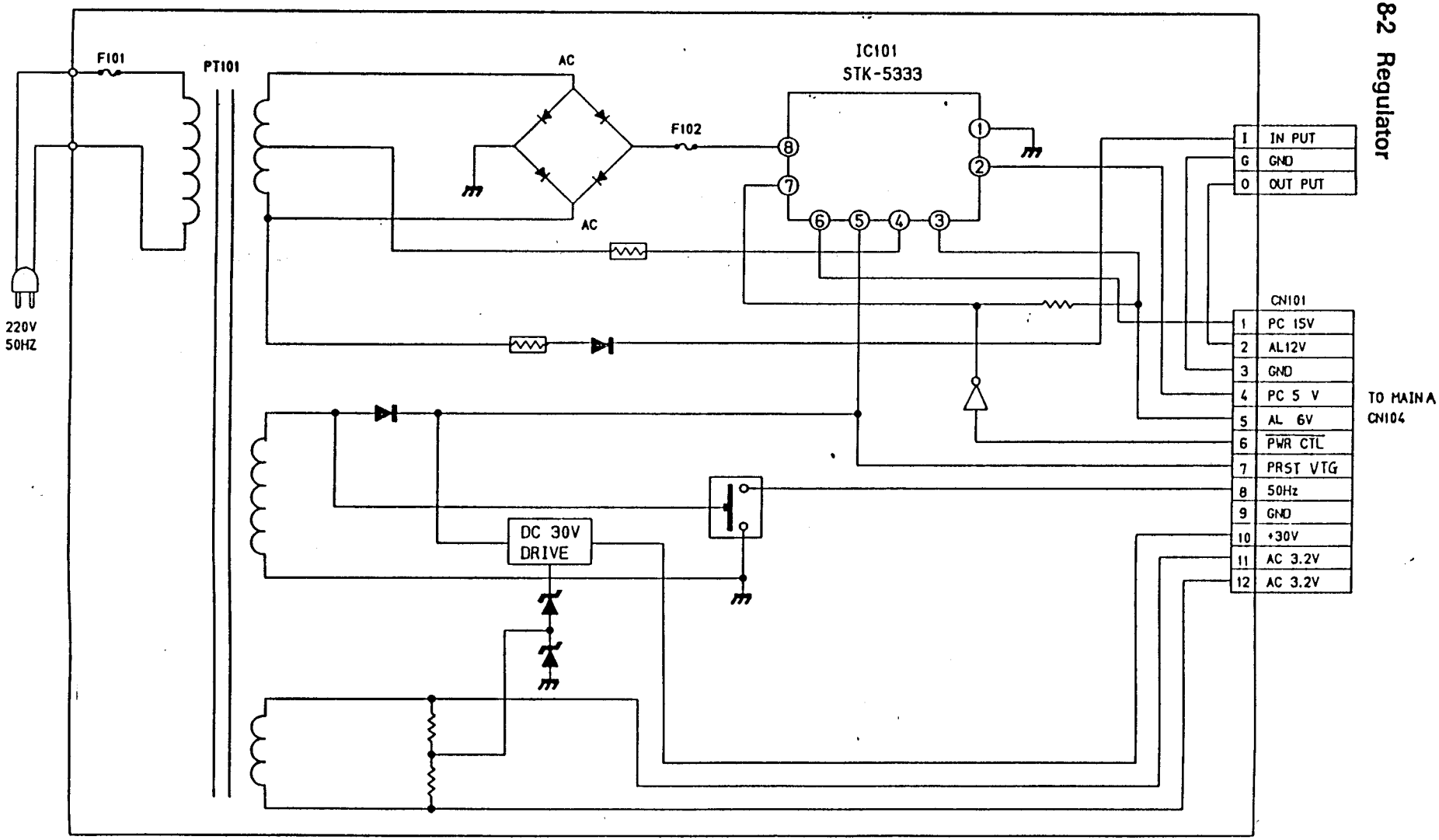
OCTOBER 1987

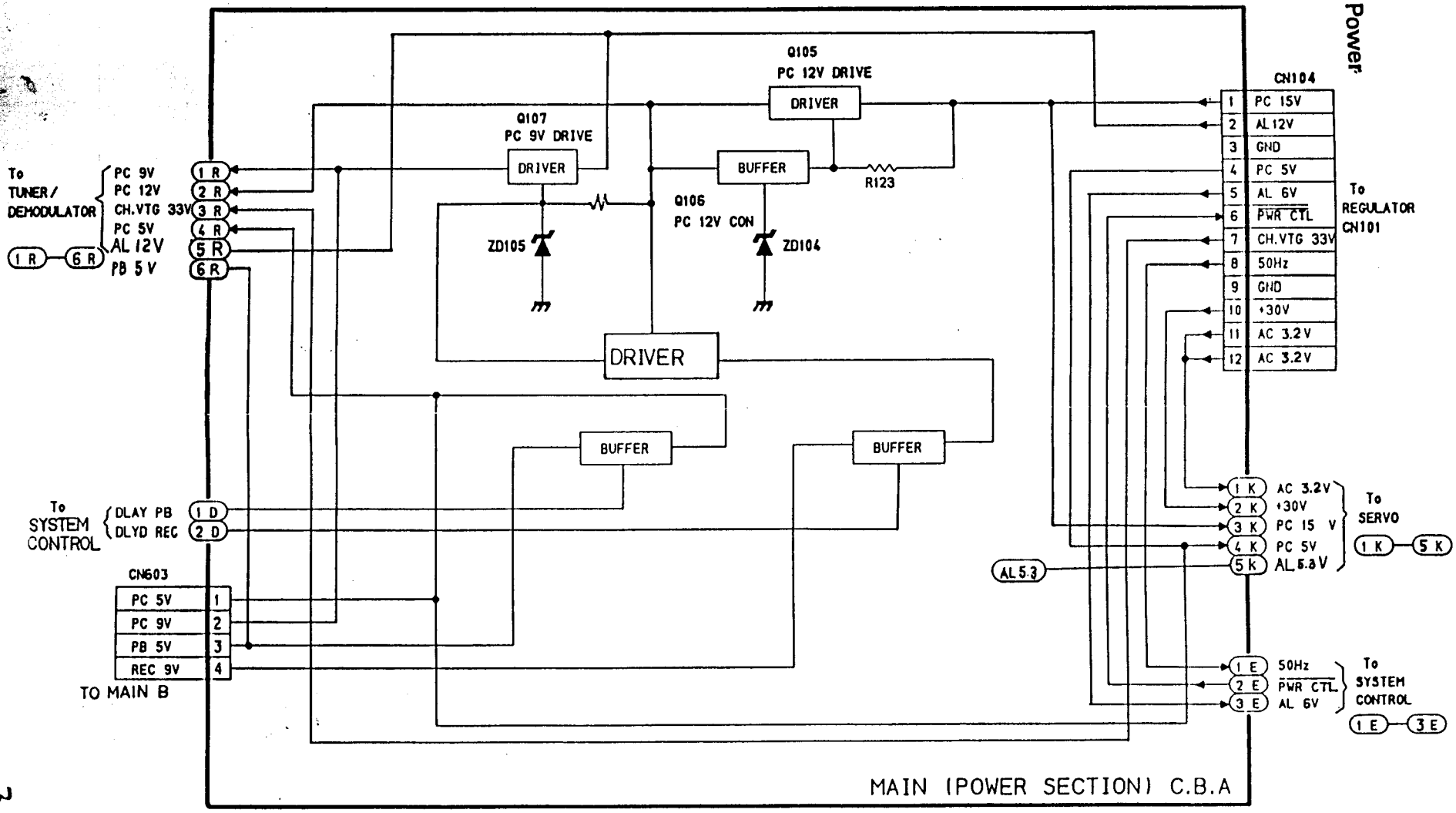
8-1. Total Wiring Diagram



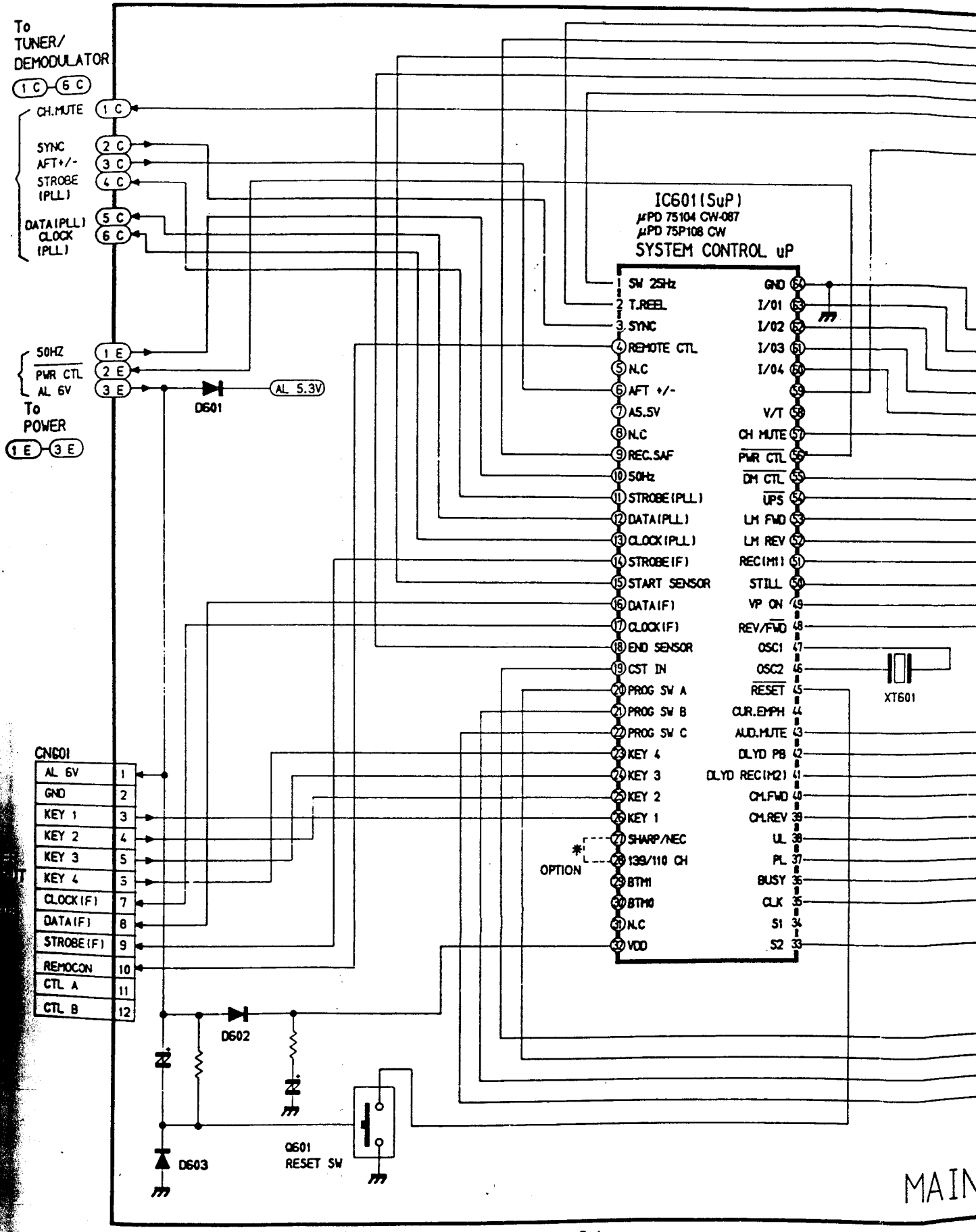

PC.12V
VIDEO
AUDIO
AL12V
RF MODULATOR UNIT
AGC
B(PC 15V)
IF
BT
PB(PC 5V)
CLOCK(PLL)
DATA(PLL)
STROBE(PLL)
TUNER UNIT
COMPONENT SERIES 100 200 400 600
CN104
PC 15V
AL 12V
GND
PC 5V
AL 6V
PWR CTL
PRST VTG
50HZ
GND
+30V
AC 3.2V
AC 3.2V
CN101
COMPONENT SERIES 100
REGULATOR C.B.A
AC 220V 50HZ
I
G
O
IC 7812 (DECK)
CN601
AL 6V
GND
KEY 1
KEY 2
KEY 3
KEY 4
CLOCK(F)
DATA(F)
STROBE(F)
REMOCON
CTL A
CTL B
CN703
CN701
B
C
D
A
KEY 3
PWR LED
L
G
KEY 2
KEY 4
KEY 1
GND
CN800
COMPONENT SERIES 800
FUNCTION SWITCH C.B.A
CN301
PC 5V
PC 9V
PB 5V
REC 9V
C SYNC
D.O.P
SW 25HZ
A.MUTE
GND
GND
VXO
PIC CTL
CN603
CN304
AUDIO OUT
GND
AUDIO IN
GND
VIDEO OUT
GND
VIDEO IN
GND
VP OUT
CN401
MAIN.A C.B.A
CN203
AC 3.2V
AC 3.2V
+30V
GND
TRACKING
PIC CTL
V-LOCK ADJ
PC 5V
CN702
COMPONENT SERIES 700
TIMER/INPUT KEY C.B.A
CN202
CONTROL
GND
CN305
CH2(-)
CH1 2(+)
GND
CH1(-)
CN303
SW 25HZ
REC 8V
PB 5V
GND
REC FM
GND
PB FM
COMPONENT SERIES 300
PRE-AMP C.B.A
COMPONENT SERIES 300
MAIN.B C.B.A
CN302
AUDIO R/P(-)
GND
NC
AUDIO R/P(+)
GND
AUDIO ERASE
GND
FULL ERASE
CN003
AUDIO R/P(-)
AUDIO R/P(+)
GND
CONTROL
GND
AUDIO ERASE
AUDIO REC/PB HEAD
CONTROL HEAD
AUDIO ERASE HEAD
AUDIO/CONTROL C.B.A
CN002
GND
FULL ERASER
FULL ERASE HEAD
FULL ERASER C.B.A

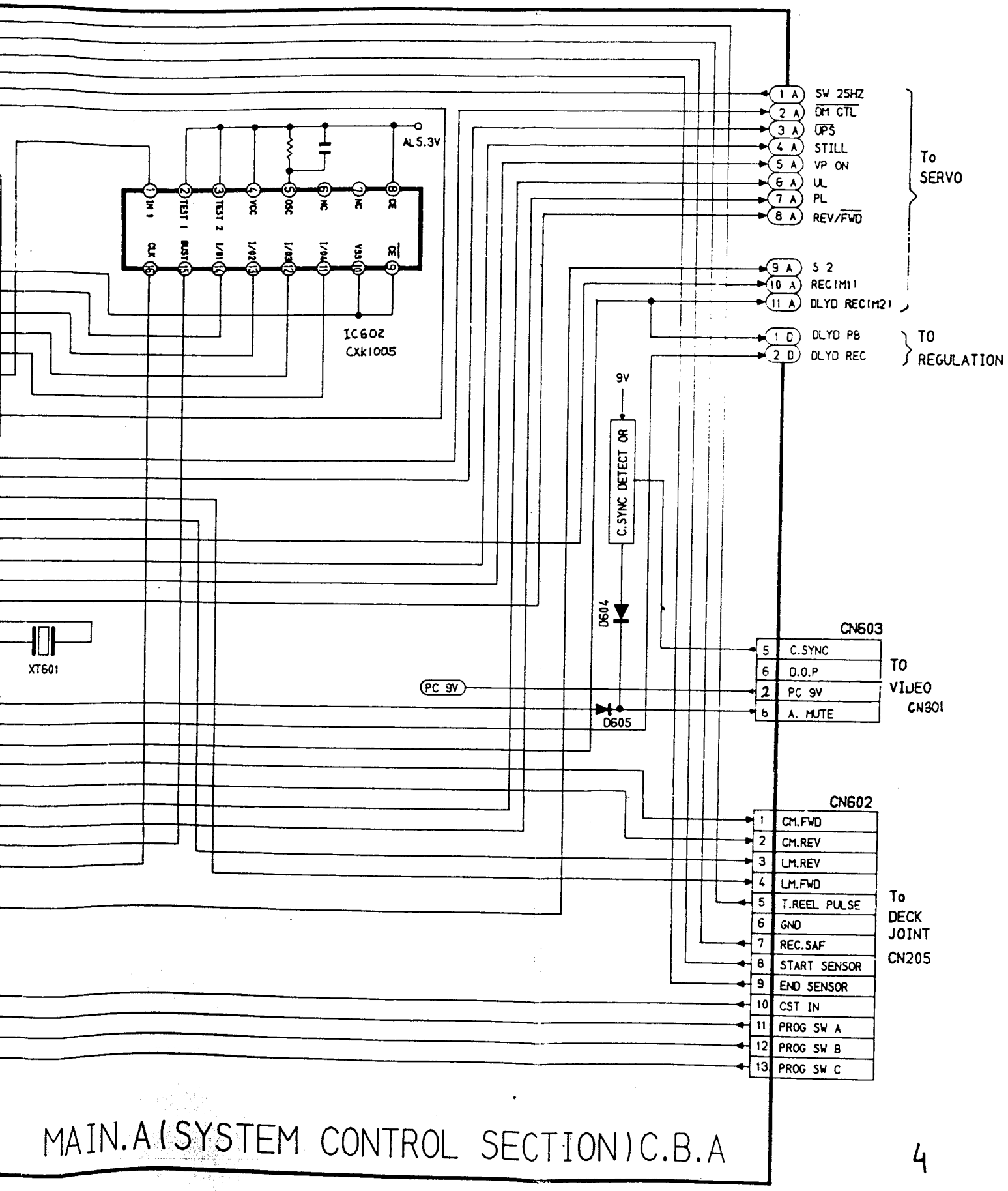
8-2 Regulator




Q105
PC 12V DRIVE
DRIVER
Q107
PC 9V DRIVE
DRIVER
BUFFER
R123
Q106
PC 12V CON
ZD105
ZD104
DRIVER
BUFFER
BUFFER
CN104
1 PC 15V
2 AL 12V
3 GND
4 PC 5V
5 AL 6V
6 PWR CTL
7 CH.VTG 33V
8 50Hz
9 GND
10 +30V
11 AC 3.2V
12 AC 3.2V
To REGULATOR CN101
To TUNER/ DEMODULATOR
PC 9V
PC 12V
CH.VTG 33V
PC 5V
AL 12V
PB 5V
1R 2R 3R 4R 5R 6R
1R 6R
To SYSTEM CONTROL
DLAY PB
DLYD REC
1D 2D
CN603
PC 5V 1
PC 9V 2
PB 5V 3
REC 9V 4
TO MAIN B
1K AC 3.2V
2K +30V
3K PC 15 V
4K PC 5V
5K AL 5.8V
AL 5.8
To SERVO
1K 5K
1E 50Hz
2E PWR CTL
3E AL 6V
To SYSTEM CONTROL
1E 3E
MAIN (POWER SECTION) C.B.A

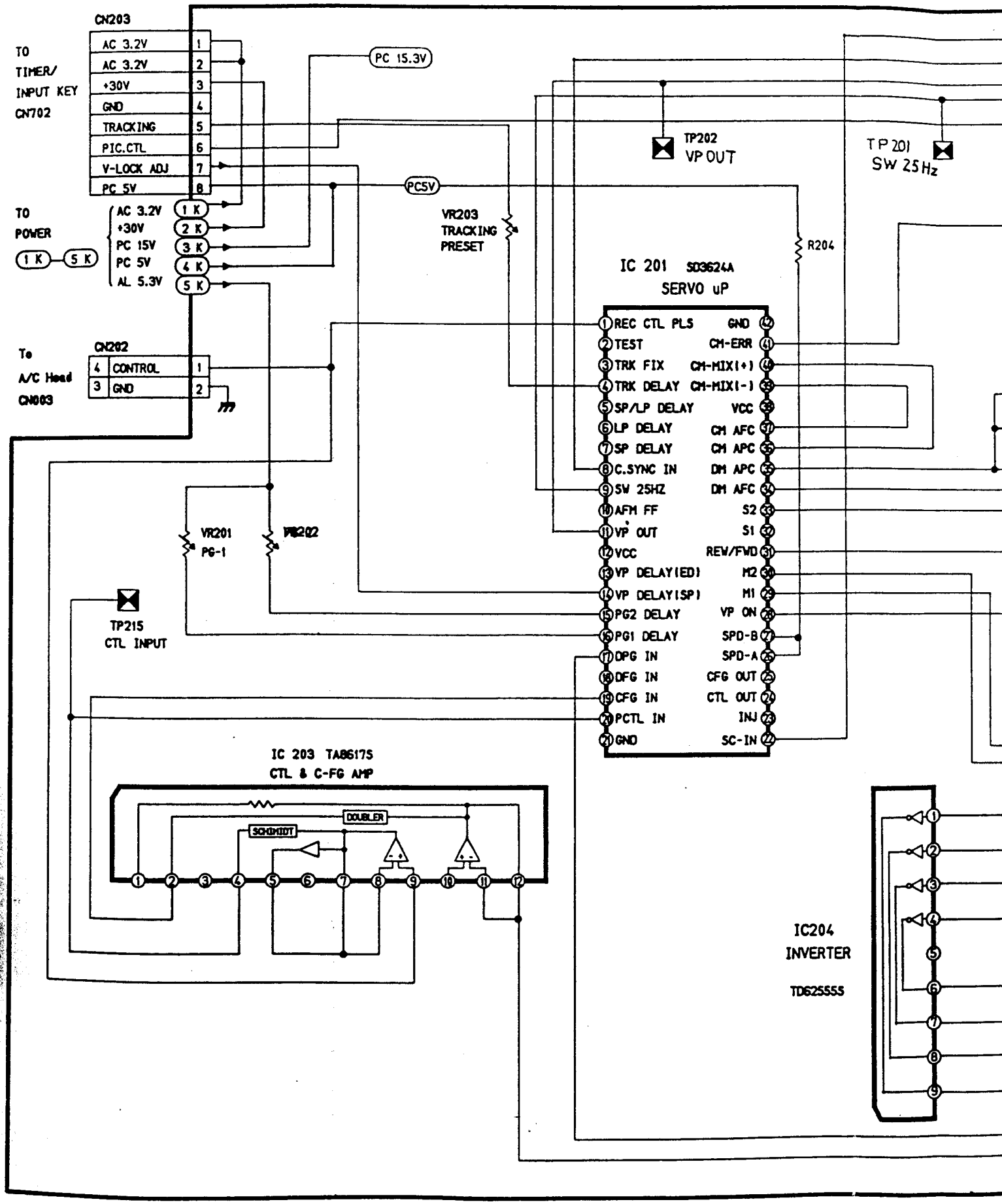
8-4. System Control

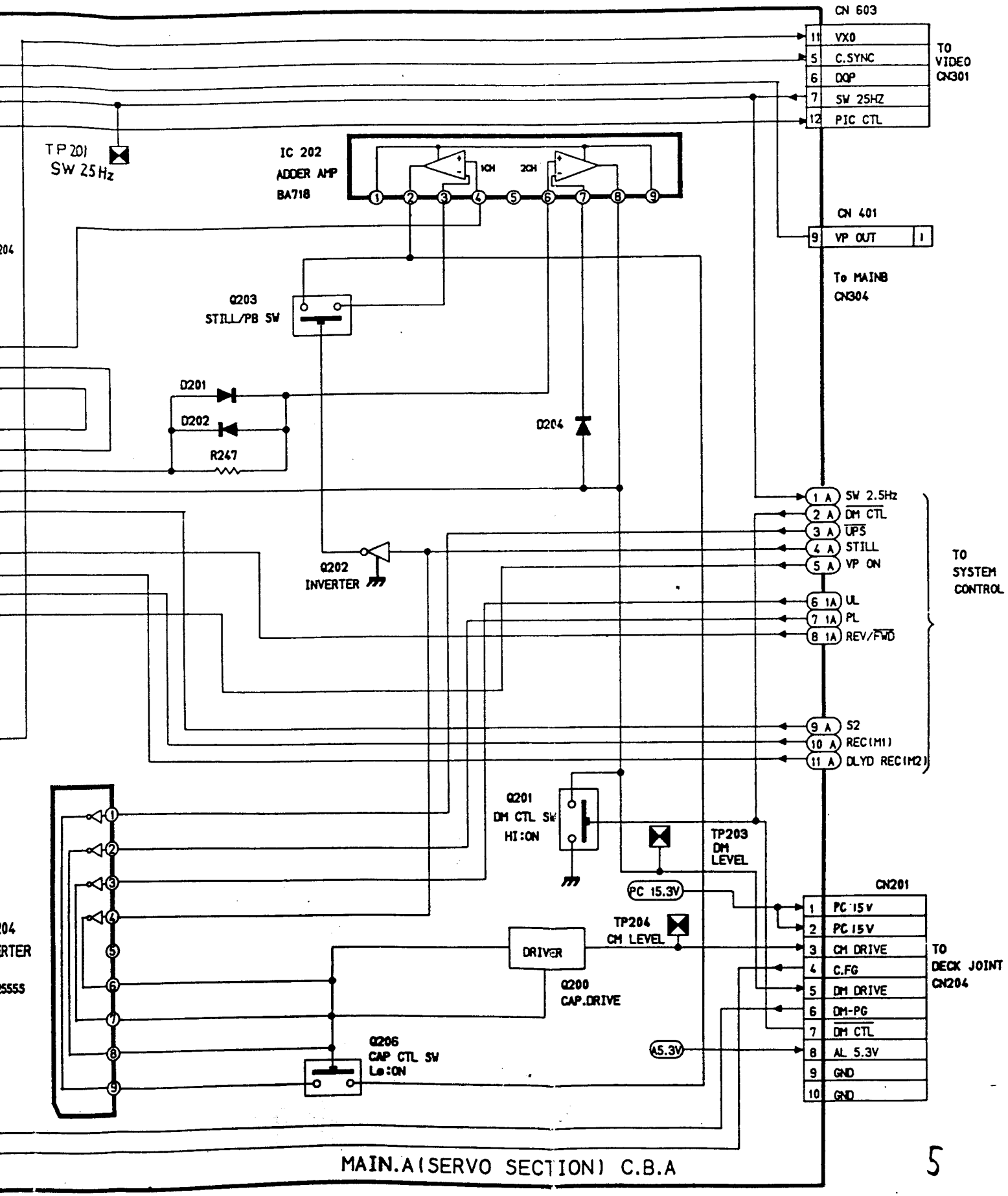




MAIN.A(SYSTEM CONTROL SECTION)C.B.A

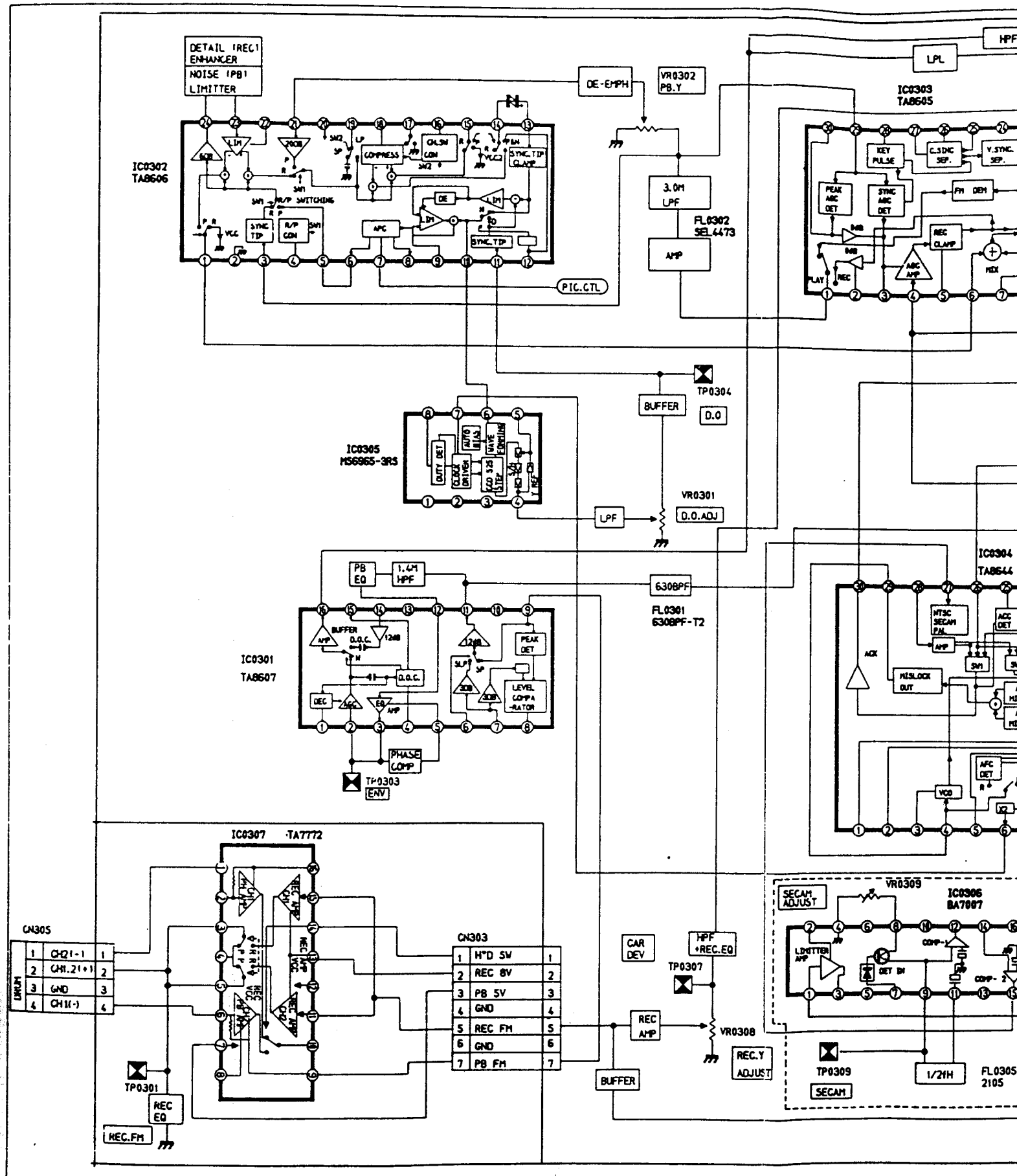
8-5. Servo

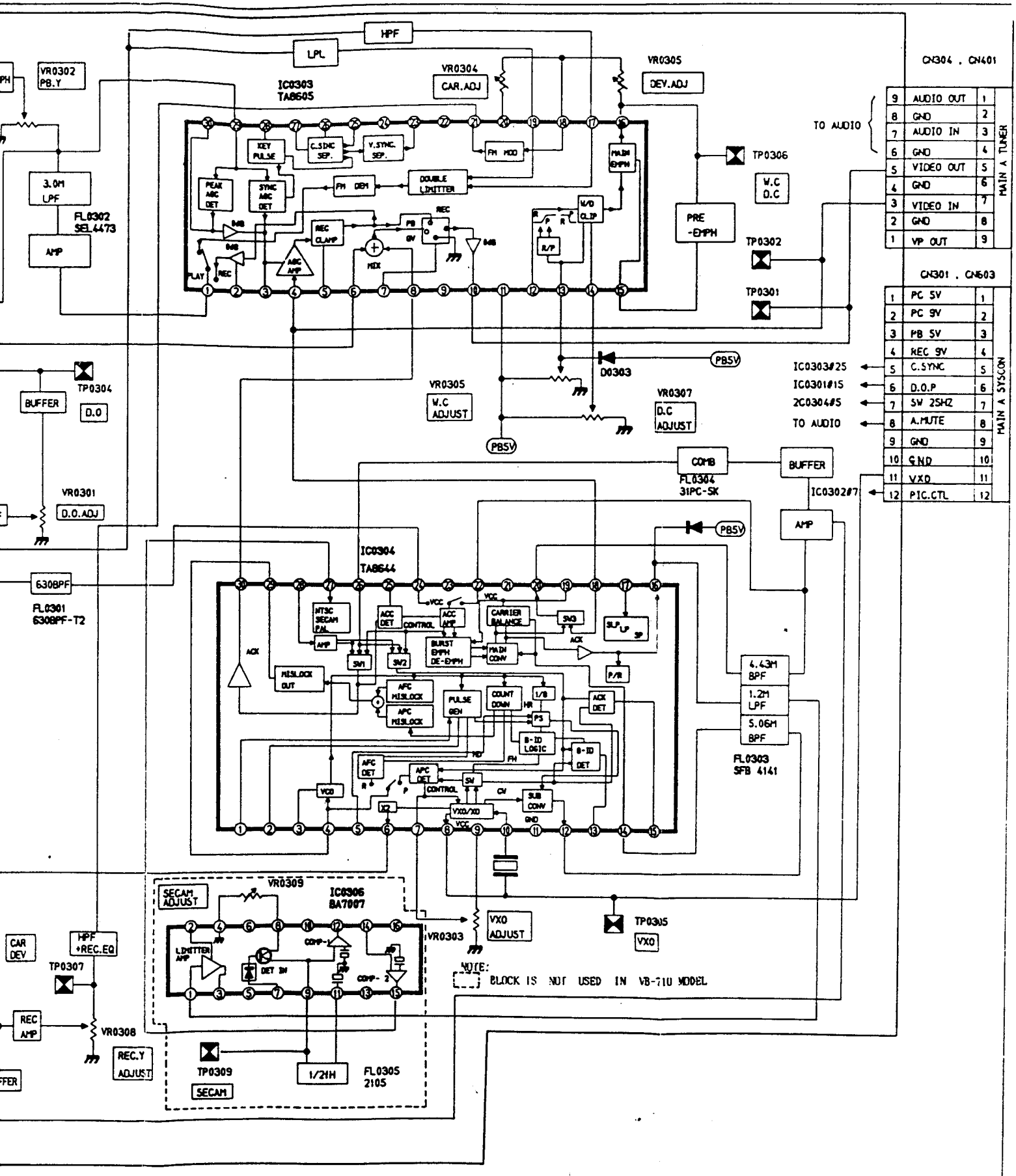

CN203
TO TIMER/ INPUT KEY CN702
AC 3.2V 1
AC 3.2V 2
+30V 3
GND 4
TRACKING 5
PIC.CTL 6
V-LOCK ADJ 7
PC 5V 8
PC 15.3V
PC5V
TO POWER
1K 5K
AC 3.2V 1K
+30V 2K
PC 15V 3K
PC 5V 4K
AL 5.3V 5K
To A/C Head CN003
CN202
4 CONTROL 1
3 GND 2
VR203 TRACKING PRESET
TP202 VP OUT
TP201 SW 25Hz
R204
IC 201 SD3624A SERVO uP
1 REC CTL PLS
2 TEST
3 TRK FIX
4 TRK DELAY
5 SP/LP DELAY
6 LP DELAY
7 SP DELAY
8 C.SYNC IN
9 SW 25HZ
10 AFM FF
11 VP OUT
12 VCC
13 VP DELAY(ED)
14 VP DELAY(SP)
15 PG2 DELAY
16 PG1 DELAY
17 DPG IN
18 DFG IN
19 CFG IN
20 PCTL IN
21 GND
42 GND
41 CM-ERR
40 CM-MIX(+)
39 CM-MIX(-)
38 VCC
37 CM AFC
36 CM APC
35 DM APC
34 DM AFC
33 S2
32 S1
31 REV/FWD
30 M2
29 M1
28 VP ON
27 SPD-B
26 SPD-A
25 CFG OUT
24 CTL OUT
23 INJ
22 SC-IN
VR201 PG-1
VR202
TP215 CTL INPUT
IC 203 TA86175 CTL & C-FG AMP
DOUBLER
SCHMITT
1 2 3 4 5 6 7 8 9 10 11 12
IC204 INVERTER TD62555S
1 2 3 4 5 6 7 8 9

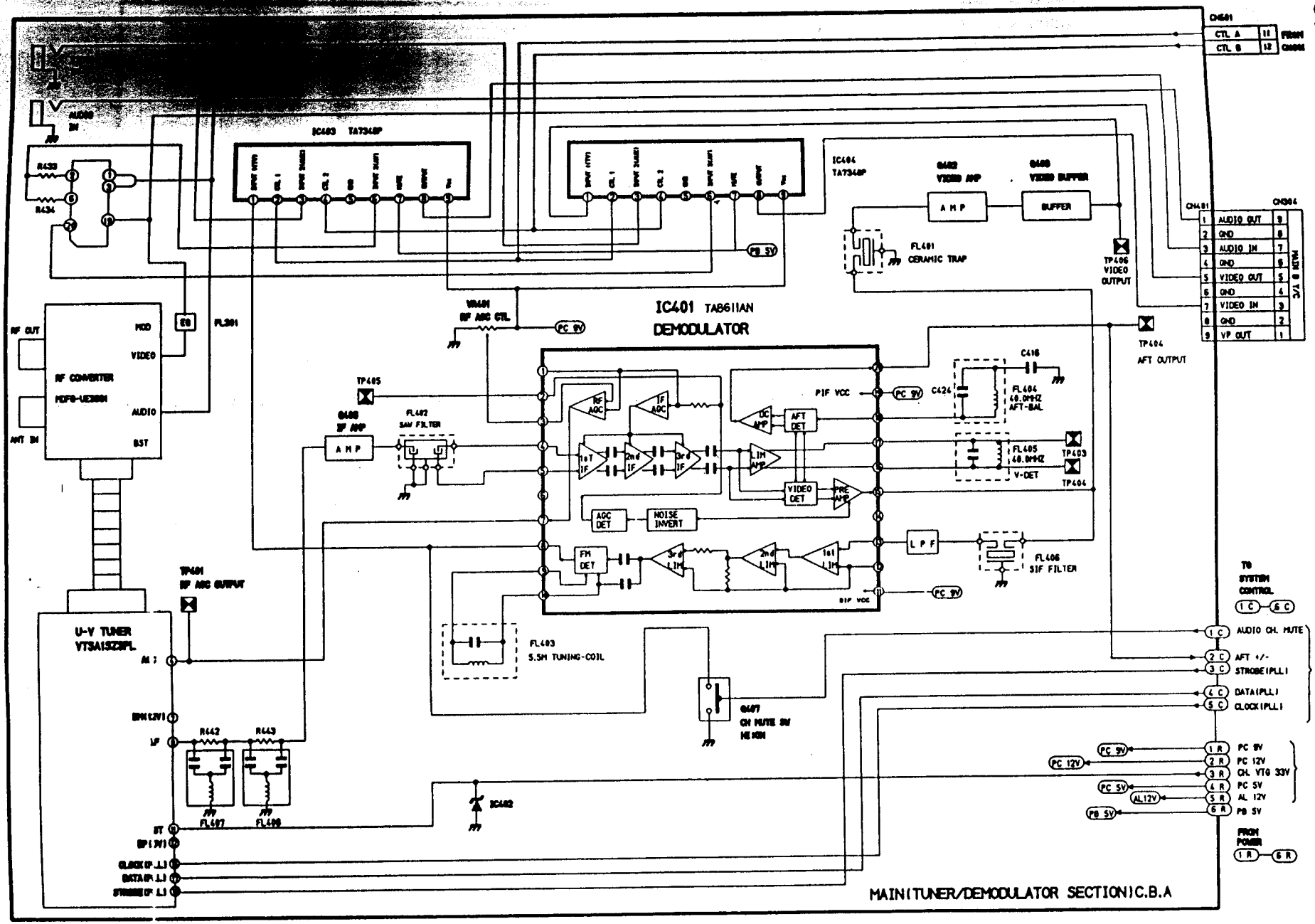


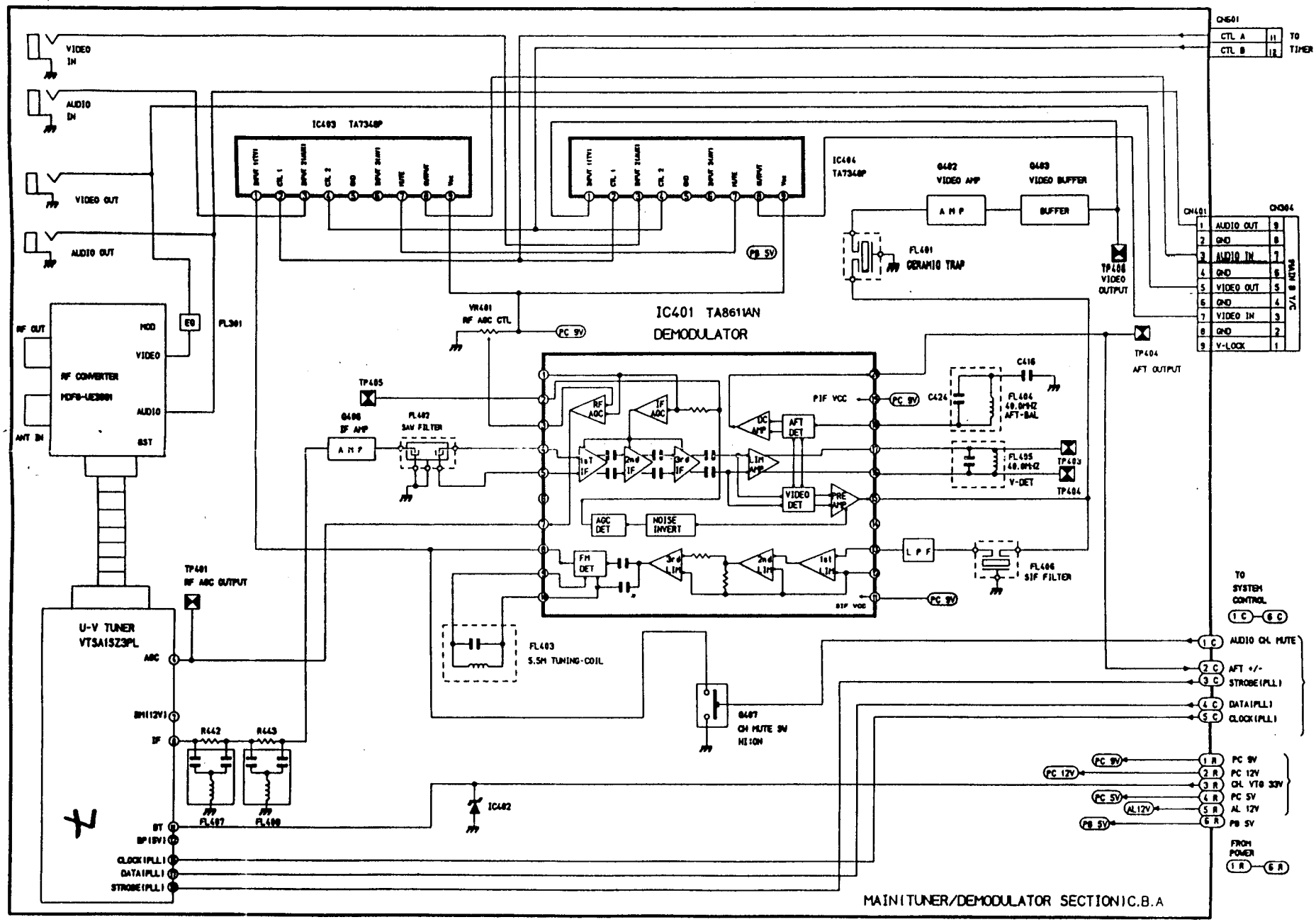
MAIN.A(SERVO SECTION) C.B.A

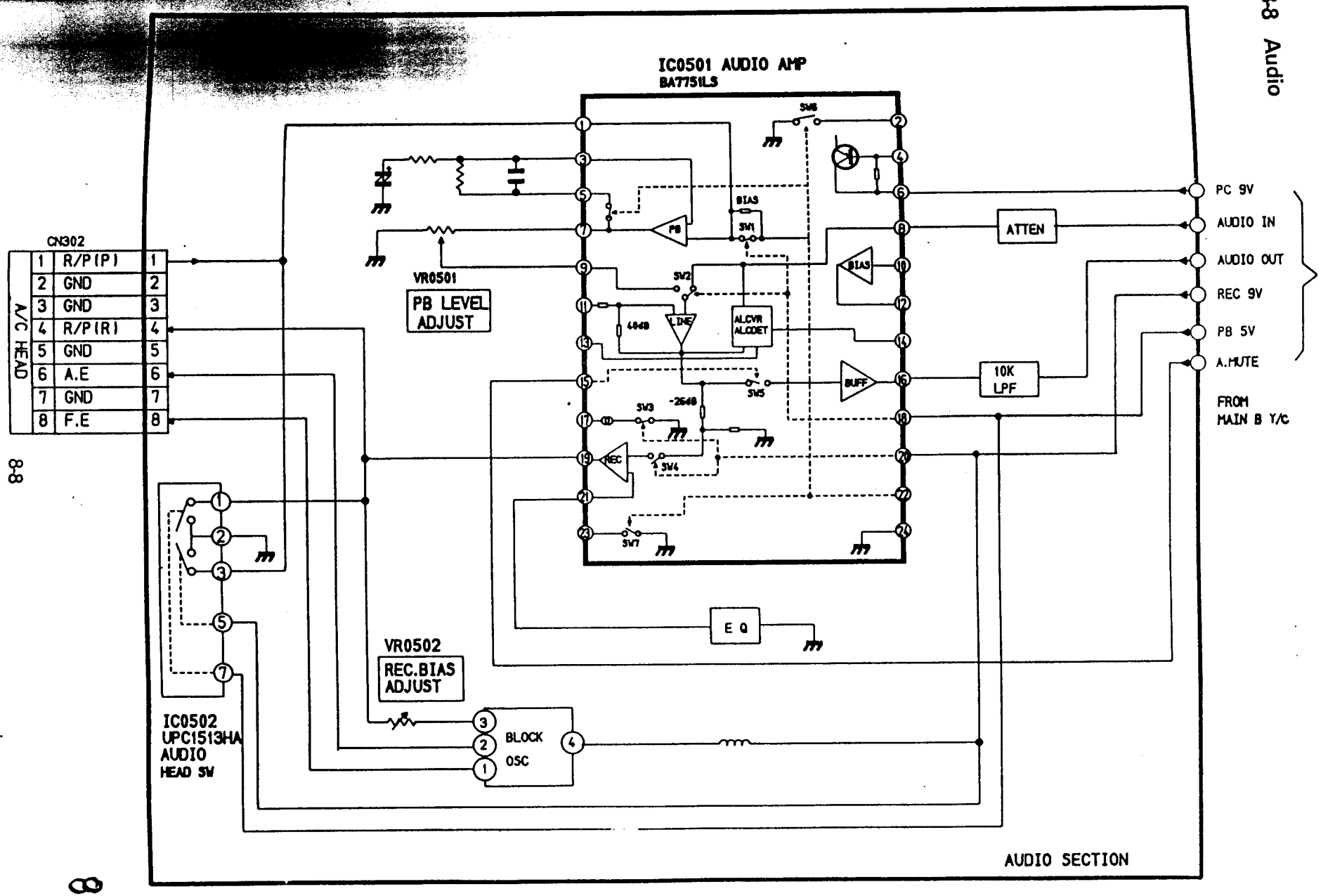
8-6 Luminance/Chrominance



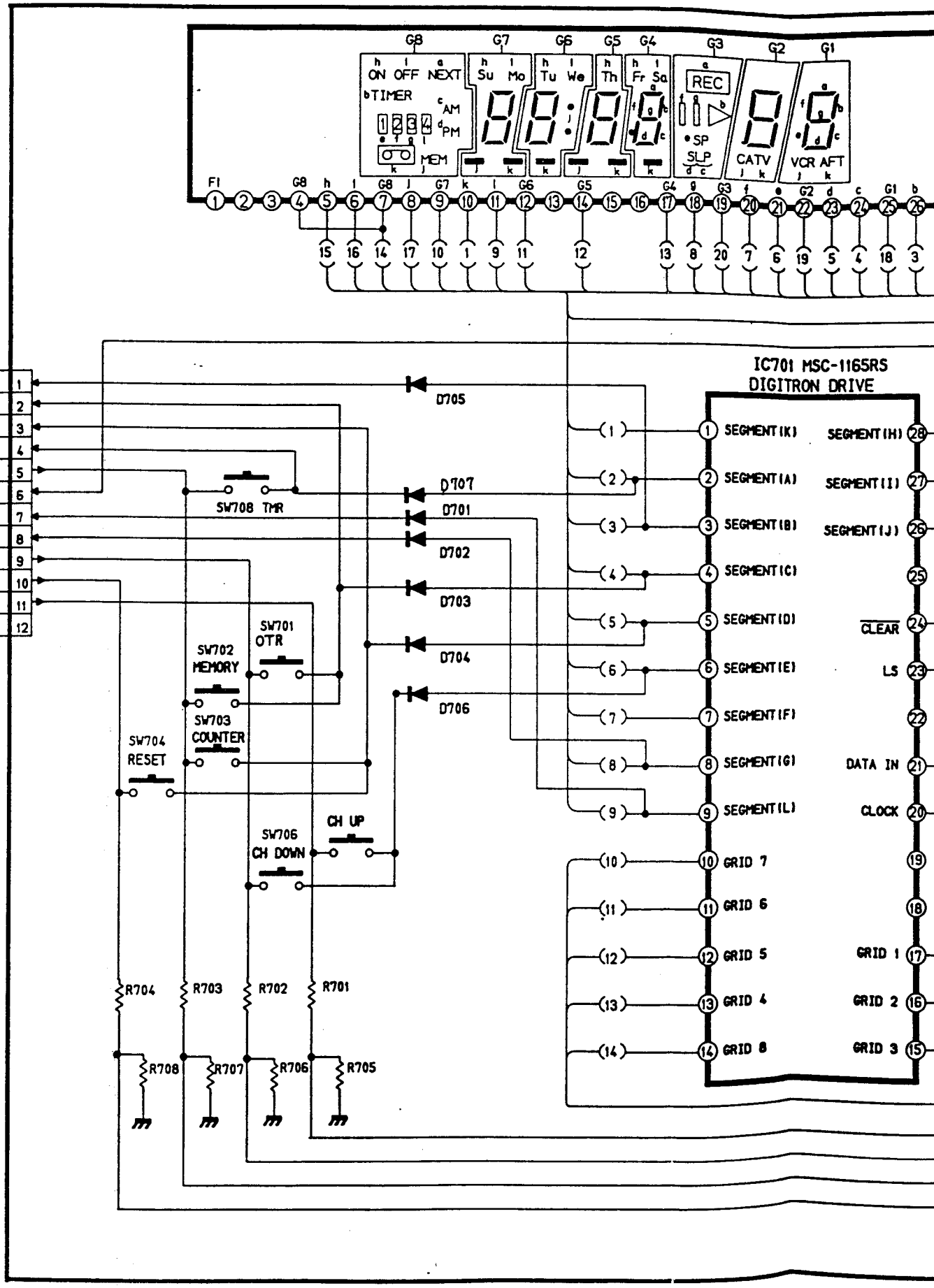

HPF
LPL
VR0304
CAR.ADJ
VR0305
DEV.ADJ
IC0303
TA8605
VR0302
PB.Y
3.0M
LPF
FL0302
SEL4473
AMP
TP0306
W.C
D.C
PRE
-EMPH
TP0302
TP0301
CN304 . CN401
TO AUDIO
9 AUDIO OUT 1
8 GND 2
7 AUDIO IN 3
6 GND 4
5 VIDEO OUT 5
4 GND 6
3 VIDEO IN 7
2 GND 8
1 VP OUT 9
MAIN A TUNER
CN301 . CN603
1 PC 5V 1
2 PC 9V 2
3 PB 5V 3
4 REC 9V 4
5 C.SYNC 5
6 D.O.P 6
7 SW 25HZ 7
8 A.MUTE 8
9 GND 9
10 GND 10
11 VXO 11
12 PIC.CTL 12
MAIN A SYSCON
IC0303#25
IC0301#15
2C0304#5
TO AUDIO
IC0302#7
PBSV
D0303
VR0305
W.C
ADJUST
VR0307
D.C
ADJUST
TP0304
BUFFER
D.O
VR0301
D.O.ADJ
6308PF
FL0301
6308PF-T2
COMB
FL0304
31PC-SK
BUFFER
AMP
IC0304
TA8644
4.43M
BPF
1.2M
LPF
5.06M
BPF
FL0303
SFB 4141
SECAM
ADJUST
VR0309
IC0306
BA7007
VR0303
VXO
ADJUST
TP0305
VXO
CAR
DEV
HPF
+REC.EQ
TP0307
REC
AMP
VR0308
REC.Y
ADJUST
TP0309
SECAM
1/2H
FL0305
2105
NOTE:
BLOCK IS NOT USED IN VB-710 MODEL

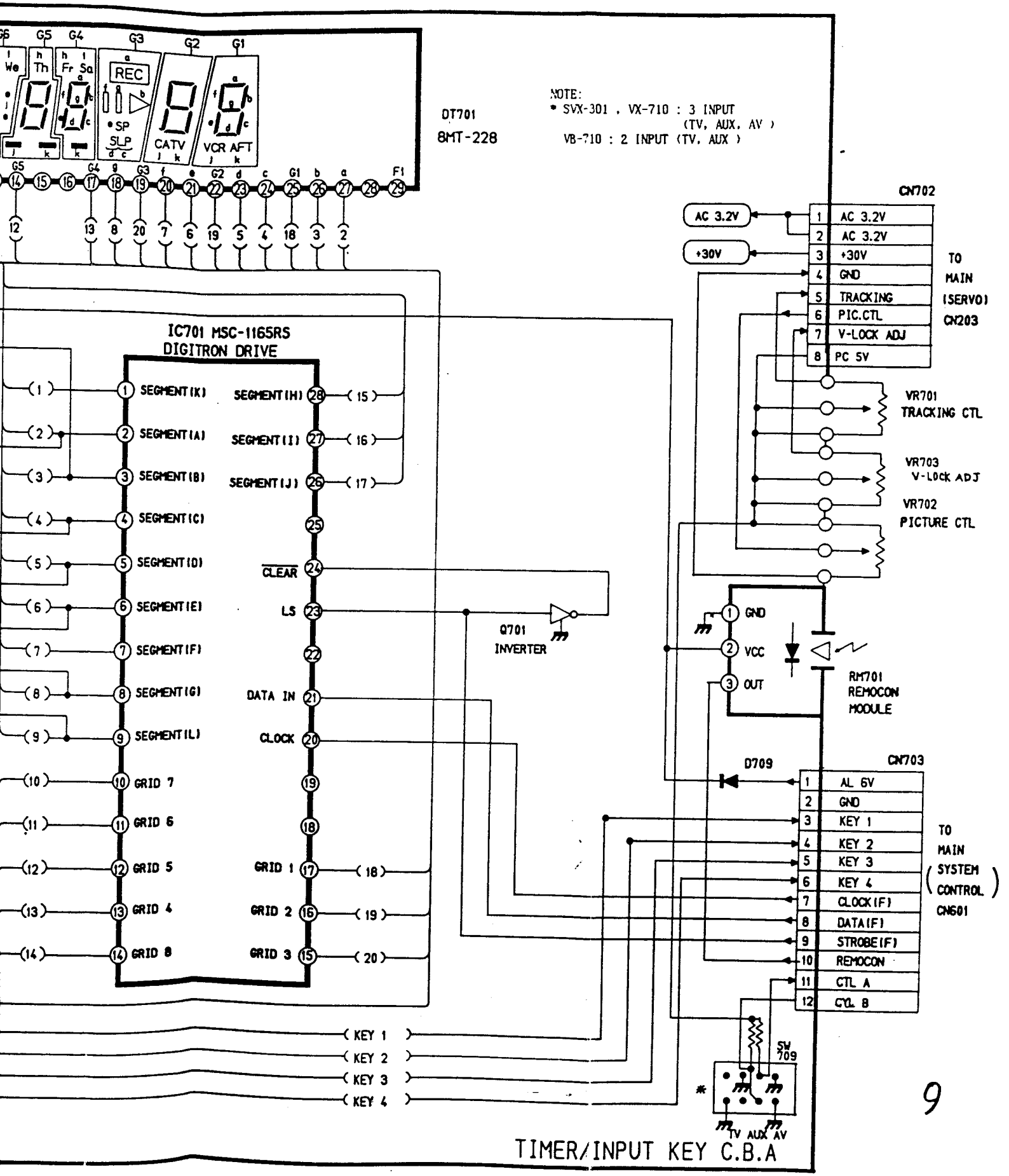

IC401 TA8611AN
DEMODULATOR
IC403 TA7348P
IC404 TA7348P
A M P
BUFFER
FL401 CERAMIC TRAP
TP406 VIDEO OUTPUT
TP404 AFT OUTPUT
RF CONVERTER
U-V TUNER VTSA1SZ3PL
FL402 SAW FILTER
FL403 5.5M TUNING-COIL
FL404 40.0MHZ AFT-BAL
FL405 40.0MHZ V-DET
FL406 SIF FILTER
TP401 IF AGC OUTPUT
TP405
TP403
AGC DET
NOISE INVERT
FM DET
VIDEO DET
AFT DET
L P F
TO SYSTEM CONTROL
AUDIO CH. MUTE
AFT +/-
STROBE(PLL)
DATA(PLL)
CLOCK(PLL)
PC 9V
PC 12V
CH. VTG 33V
PC 5V
AL 12V
PB 5V
FROM POWER
MAIN(TUNER/DEMODULATOR SECTION)C.B.A


VIDEO IN
AUDIO IN
VIDEO OUT
AUDIO OUT
IC403 TA7348P
IC404 TA7348P
Q402 VIDEO AMP
Q403 VIDEO BUFFER
A M P
BUFFER
FL401 CERAMIC TRAP
TP406 VIDEO OUTPUT
P8.5V
VR401 RF AGC CTL
PC 9V
IC401 TA8611AN
DEMODULATOR
TP404 AFT OUTPUT
RF OUT
ANT IN
RF CONVERTER
MDFB-UE3001
MOD
VIDEO
AUDIO
BST
E8
FL301
TP405
Q406 IF AMP
FL402 SAW FILTER
RF AGC
IF AGC
1st IF
2nd IF
3rd IF
LIM AMP
DC AMP
AFT DET
P1F VCC
C424
C416
FL404 40.0MHZ AFT-BAL
FL405 40.0MHZ V-DET
TP403
TP404
VIDEO DET
PRE AMP
AGC DET
NOISE INVERT
FM DET
L P F
FL406 SIF FILTER
SIF VCC
TP401 RF AGC OUTPUT
U-V TUNER VTSA1SZ3PL
AGC
B+(12V)
IF
BT
B+(5V)
CLOCK(PLL)
DATA(PLL)
STROBE(PLL)
R442
R443
FL407
FL408
FL403 S.SH TUNING-COIL
IC402
Q407 CH MUTE 9V HI:ON
CN501
CTL A
CTL B
TO TIMER
CN401
CN304
AUDIO OUT
GND
AUDIO IN
VIDEO OUT
VIDEO IN
V-LOCK
MAIN Y/C
TO SYSTEM CONTROL
AUDIO CH. MUTE
AFT +/-
STROBE(PLL)
DATA(PLL)
CLOCK(PLL)
PC 9V
PC 12V
CH. VTG 33V
PC 5V
AL 12V
P8 5V
FROM POWER
MAIN(TUNER/DEMODULATOR SECTION)C.B.A


IC0501 AUDIO AMP
BA7751LS
CN302
A/C HEAD
1 R/P(P) 1
2 GND 2
3 GND 3
4 R/P(R) 4
5 GND 5
6 A.E 6
7 GND 7
8 F.E 8
VR0501
PB LEVEL ADJUST
VR0502
REC.BIAS ADJUST
IC0502
UPC1513HA
AUDIO
HEAD SW
BLOCK
OSC
ATTEN
10K LPF
BUFF
BIAS
ALCVR
ALCDET
LINE
REC
PB
EQ
SW1
SW2
SW3
SW4
SW5
SW6
SW7
-20dB
40dB
PC 9V
AUDIO IN
AUDIO OUT
REC 9V
PB 5V
A.MUTE
FROM MAIN B Y/C
AUDIO SECTION

8-9 Timer/Input Key




DT701
8MT-228
NOTE:
* SVX-301 , VX-710 : 3 INPUT (TV, AUX, AV)
VB-710 : 2 INPUT (TV, AUX)
REC
SP
SLP
CATV
VCR AFT
IC701 MSC-1165RS
DIGITRON DRIVE
SEGMENT(K)
SEGMENT(A)
SEGMENT(B)
SEGMENT(C)
SEGMENT(D)
SEGMENT(E)
SEGMENT(F)
SEGMENT(G)
SEGMENT(L)
GRID 7
GRID 6
GRID 5
GRID 4
GRID 8
SEGMENT(H)
SEGMENT(I)
SEGMENT(J)
CLEAR
LS
DATA IN
CLOCK
GRID 1
GRID 2
GRID 3
Q701
INVERTER
CN702
AC 3.2V
AC 3.2V
+30V
GND
TRACKING
PIC.CTL
V-LOCK ADJ
PC 5V
TO MAIN (SERVO) CN203
VR701
TRACKING CTL
VR703
V-LOCK ADJ
VR702
PICTURE CTL
GND
VCC
OUT
RM701
REMOCON MODULE
D709
CN703
AL 6V
GND
KEY 1
KEY 2
KEY 3
KEY 4
CLOCK(F)
DATA(F)
STROBE(F)
REMOCON
CTL A
CTL B
TO MAIN (SYSTEM CONTROL) CN601
KEY 1
KEY 2
KEY 3
KEY 4
SW 709
TV AUX AV
TIMER/INPUT KEY C.B.A

8. BLOCK DIAGRAM

8-1. Total Wiring Diagram

8-2. Regulator

8-3. Power

8-4. System Control

8-5. Servo

8-6. Luminance/Chrominance

8-7-1. Tuner/Demodulator (SVX-301/VX-710)

8-7-2. Tuner/Demodulator (VB-710)

8-8. Audio

8-9. Timer/Input Key

8-10. Luminance/Record Process

8-11. Luminance Playback Process

8-12. Chrominance Record Process

8-13. Chrominance Playback Process

8-14. Audio Record Process

8-15. Audio Playback Process

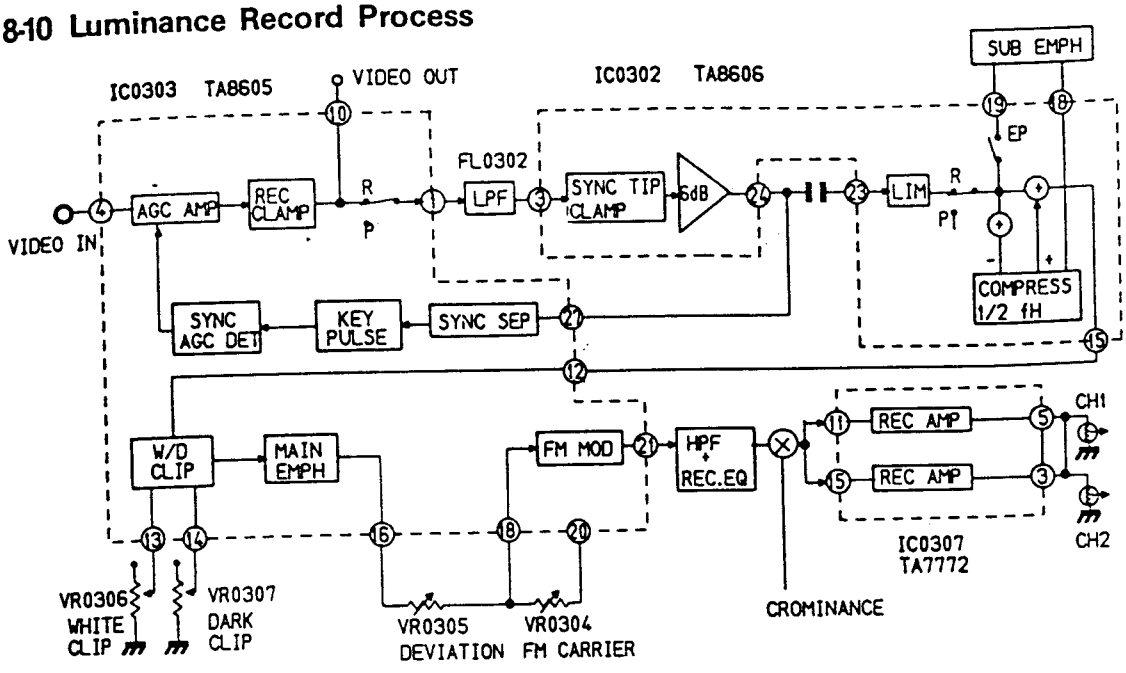
8-16. Drum Speed Control

8-17. Drum Phase Control

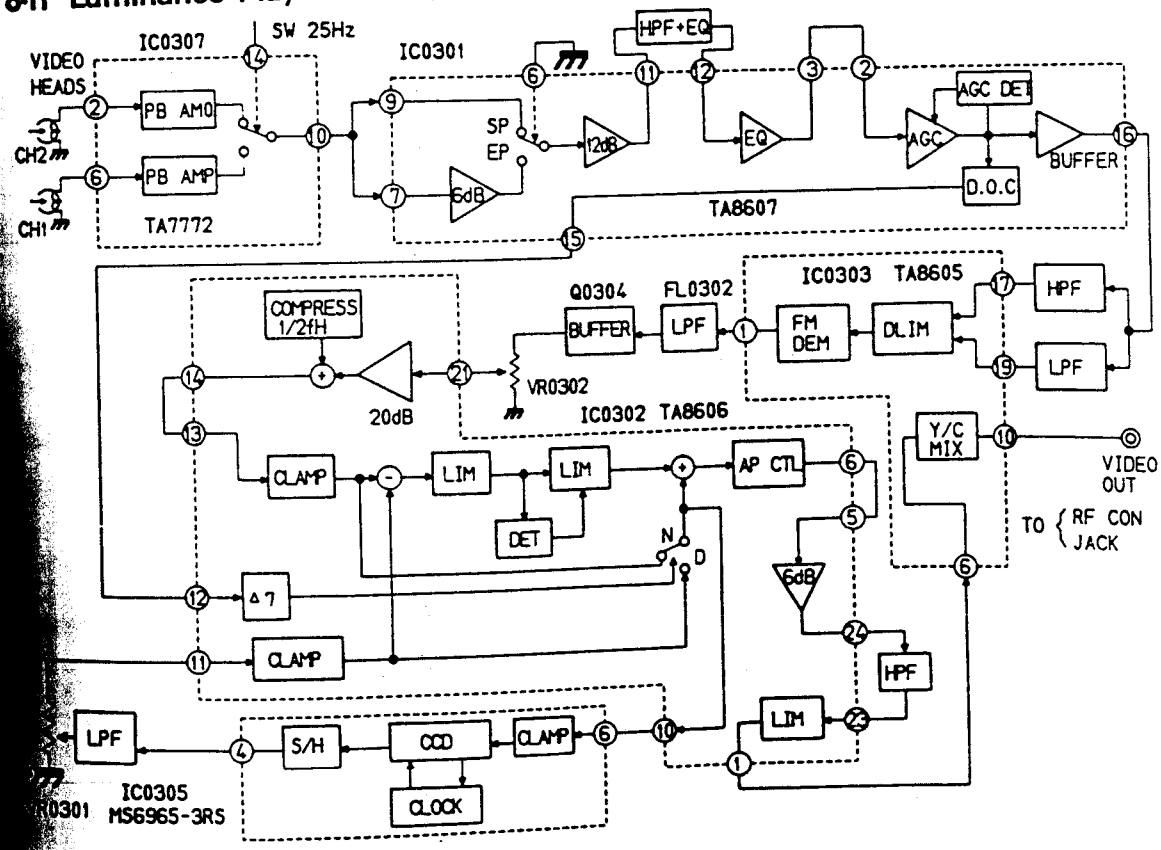
8-18. Capstan Speed Control

8-19. Capstan Phase Control

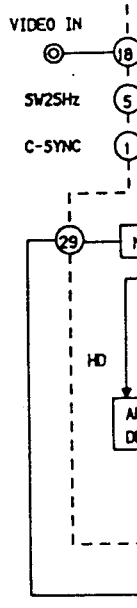
8-10 Luminance Record Process



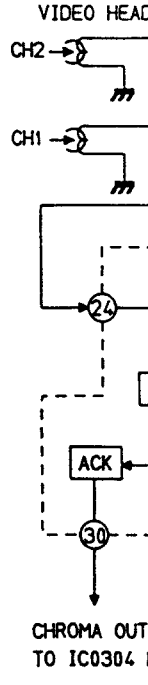
8-11 Luminance Playback Process



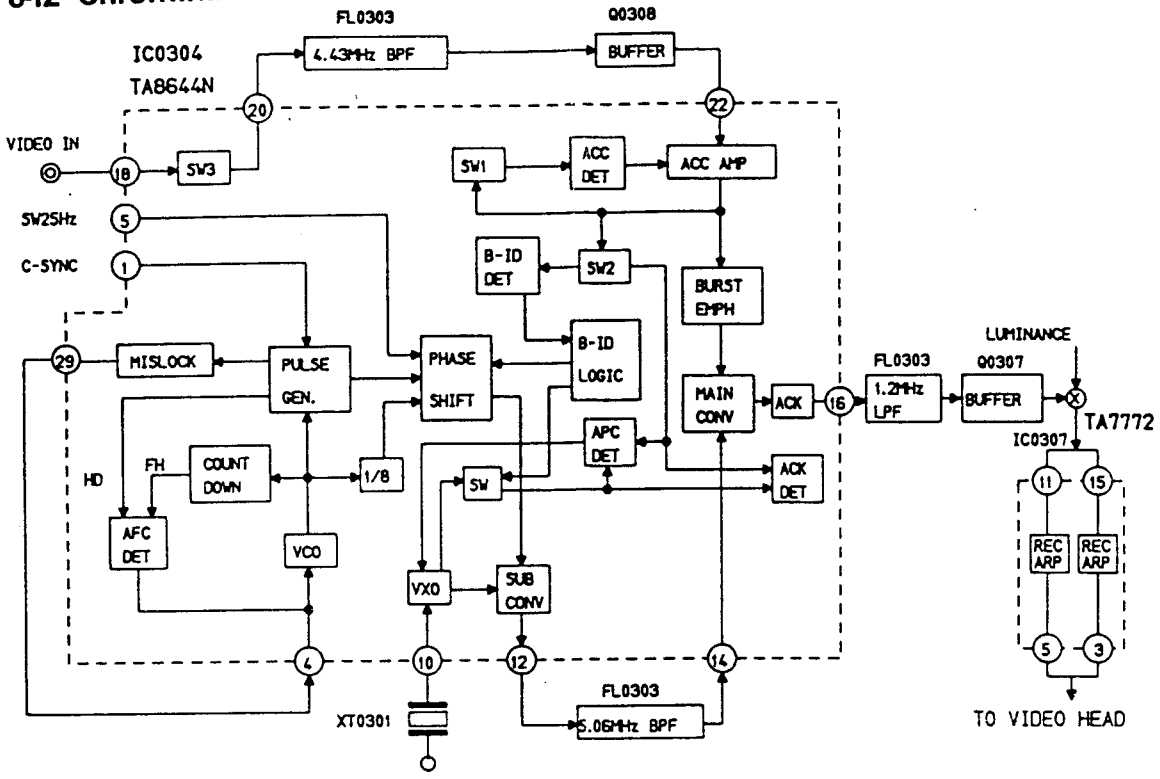
8-12 Chro



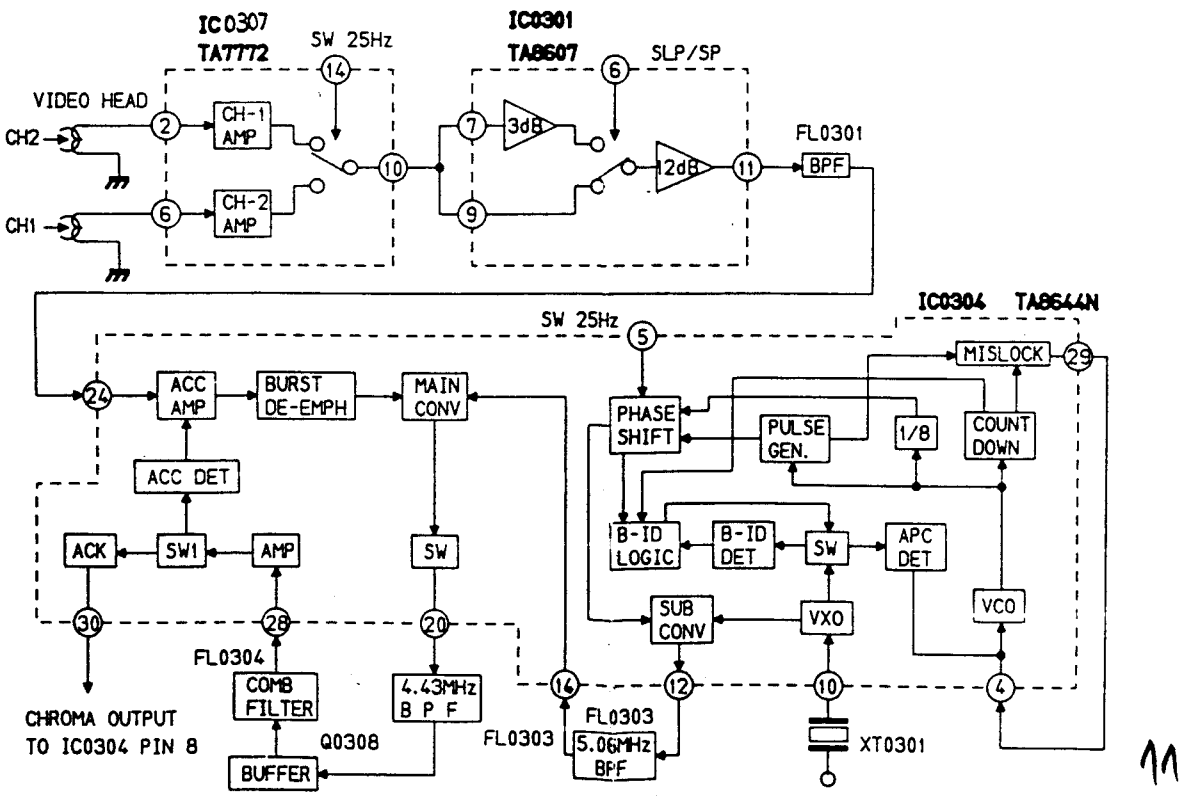
8-13 Chromi



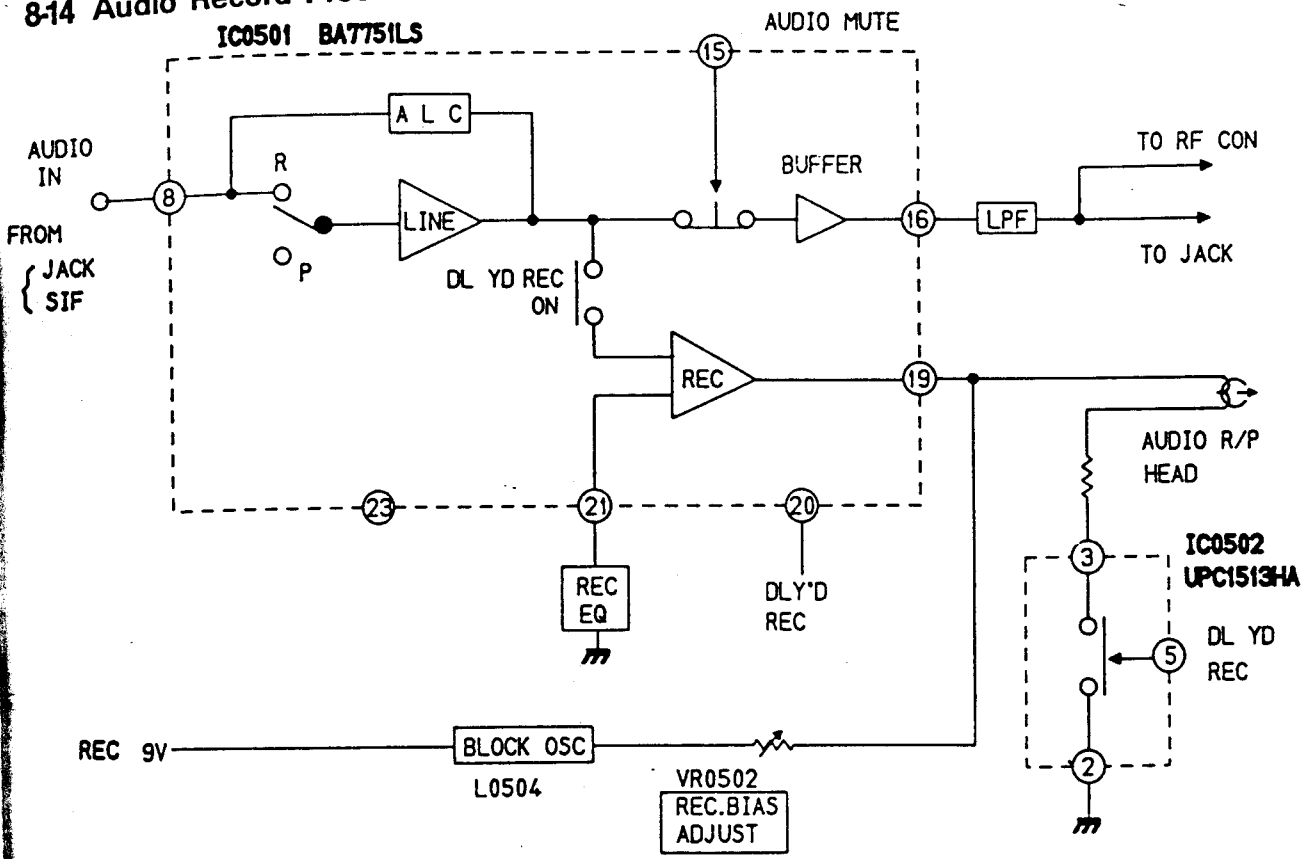
8-12 Chrominance Record Process



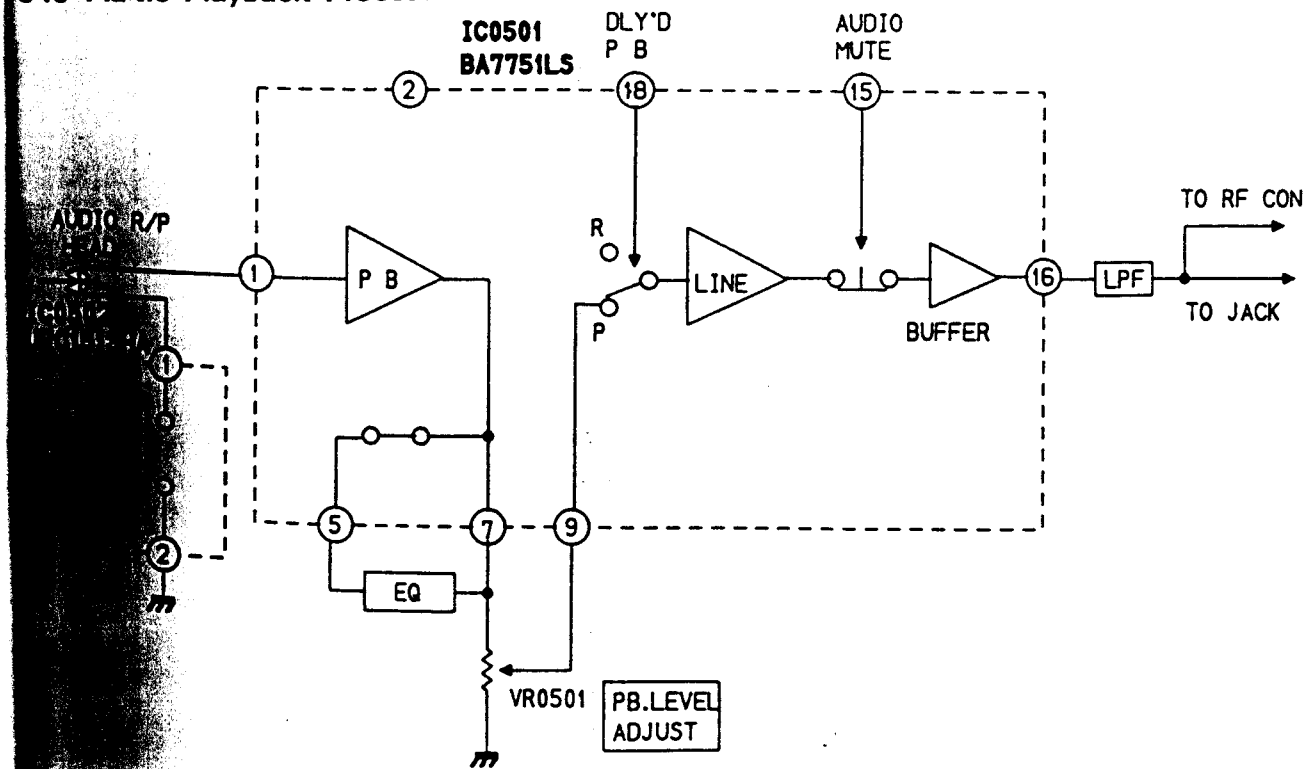
8-13 Chrominance Playback Process



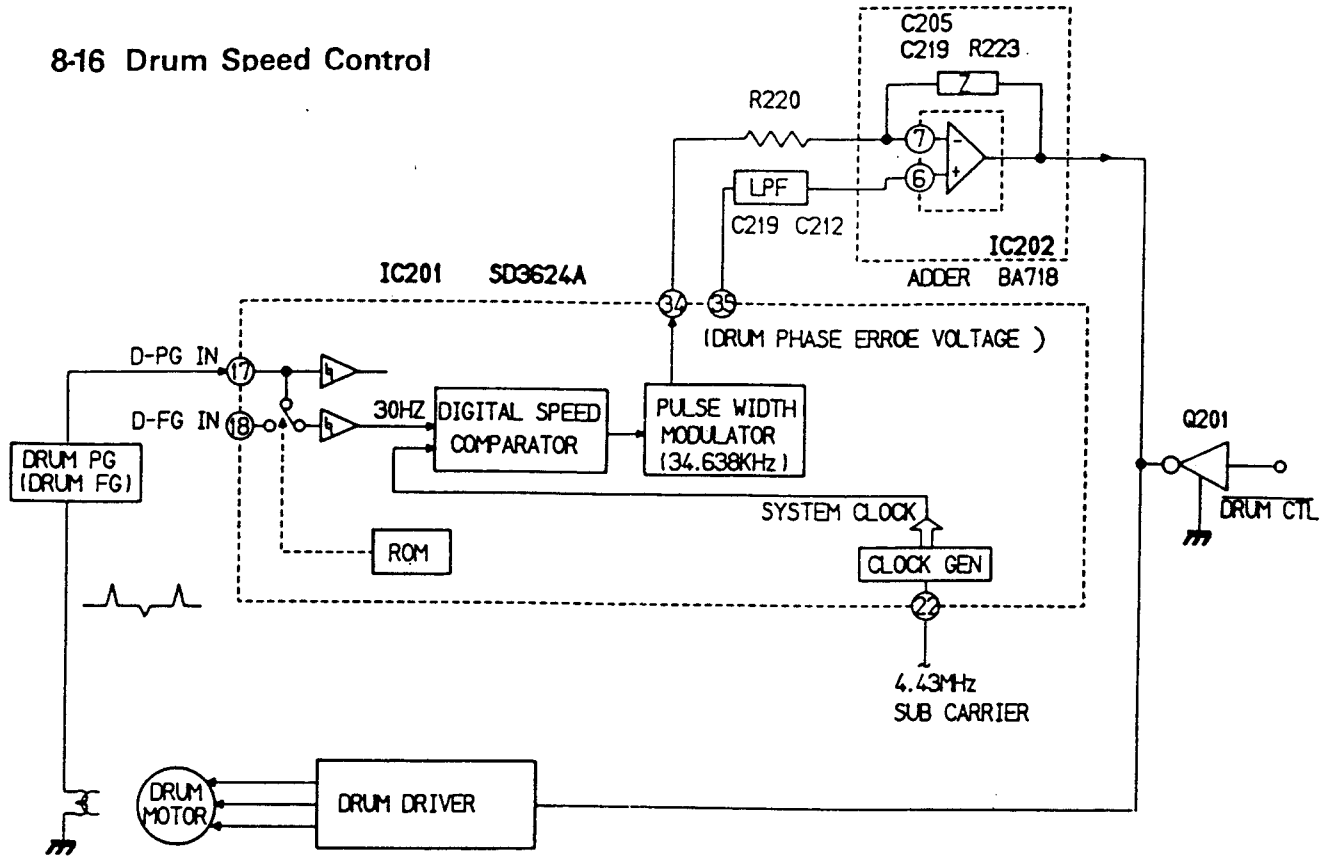
8-14 Audio Record Process



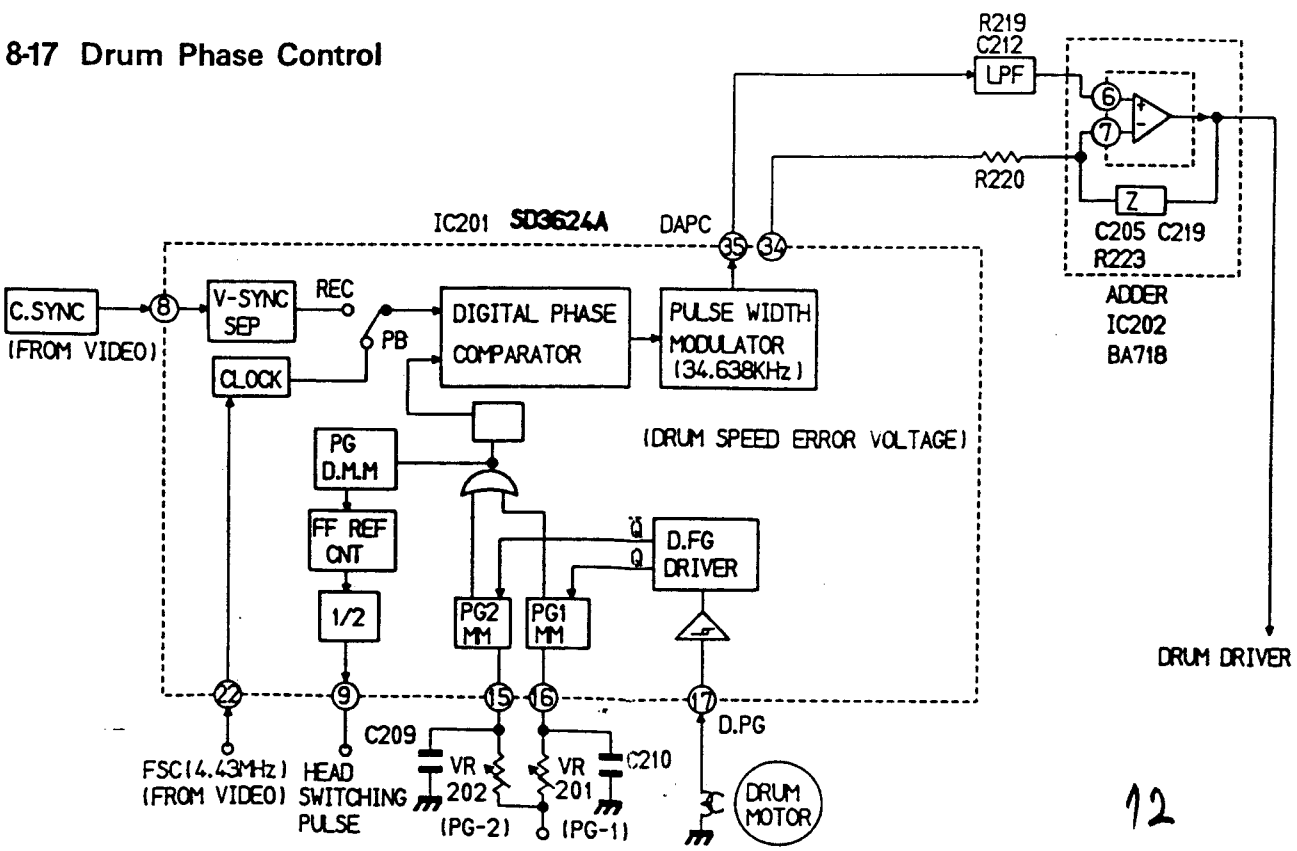
8-15 Audio Playback Process

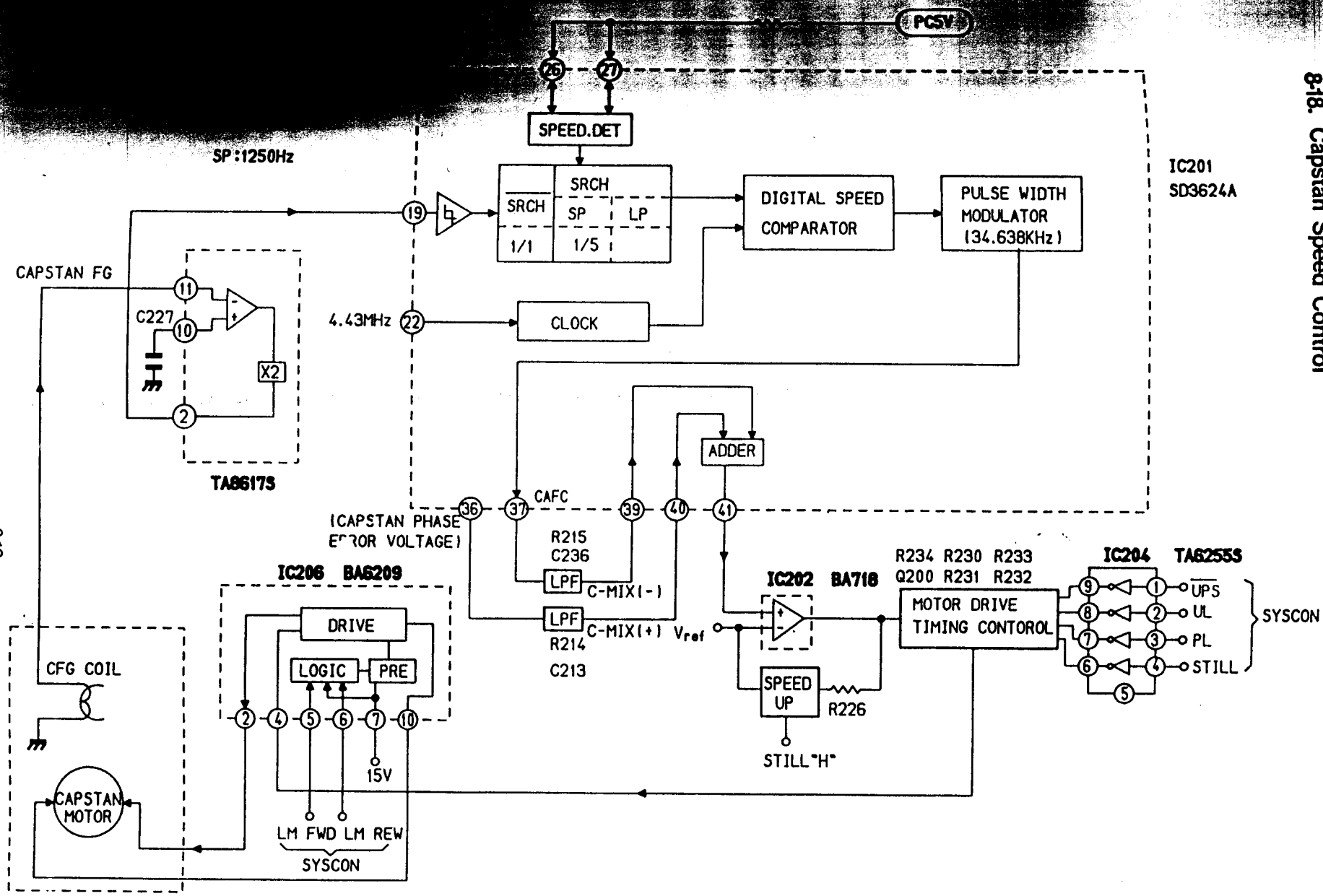


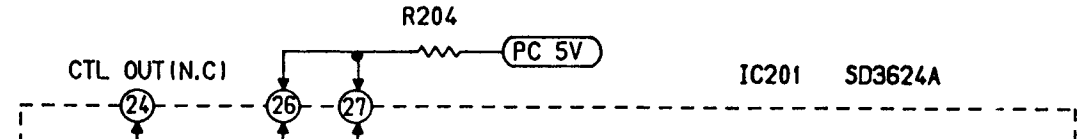
8-16 Drum Speed Control

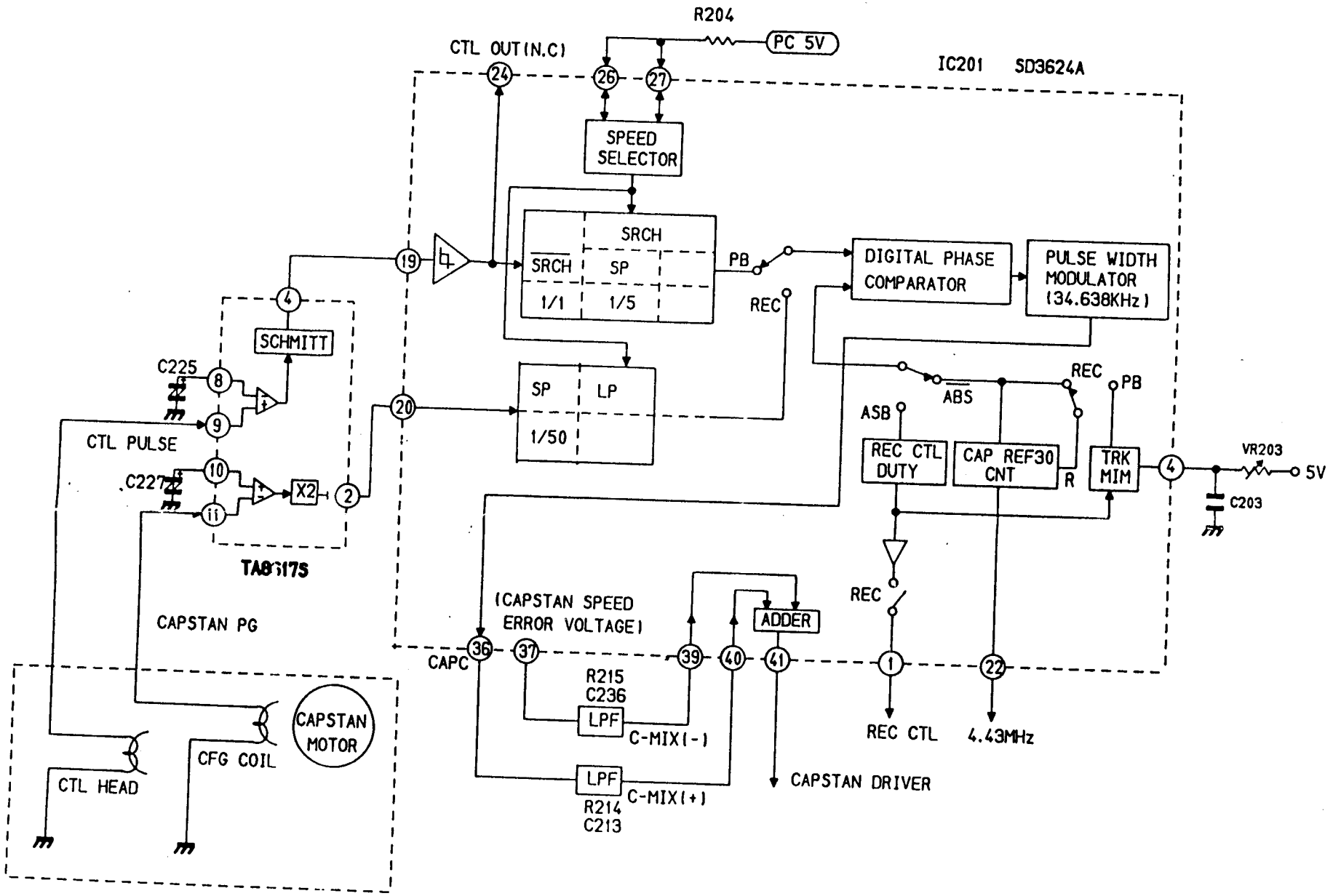


8-17 Drum Phase Control




PCSV
SPEED.DET
SP:1250Hz
IC201
SD3624A
SRCH
SRCH
SP
LP
1/1
1/5
DIGITAL SPEED
COMPARATOR
PULSE WIDTH
MODULATOR
(34.638KHz)
CAPSTAN FG
C227
X2
TA86175
4.43MHz
CLOCK
ADDER
CAPSTAN PHASE
ERROR VOLTAGE)
CAFC
R215
C236
LPF
C-MIX(-)
LPF
C-MIX(+)
R214
C213
IC206 BA6209
IC202 BA718
R234 R230 R233
Q200 R231 R232
IC204 TA82555
MOTOR DRIVE
TIMING CONTOROL
UPS
UL
PL
STILL
SYSCON
DRIVE
LOGIC
PRE
CFG COIL
SPEED
UP
R226
STILL"H"
15V
CAPSTAN
MOTOR
LM FWD LM REW
SYSCON


R204
PC 5V
CTL OUT(N.C)
IC201 SD3624A


R204
PC 5V
CTL OUT(N.C)
IC201 SD3624A
SPEED SELECTOR
SRCH
SRCH
SP
1/1
1/5
PB
REC
DIGITAL PHASE COMPARATOR
PULSE WIDTH MODULATOR (34.638KHz)
SCHMITT
C225
CTL PULSE
C227
X2
SP
LP
1/50
ABS
REC
PB
ASB
REC CTL DUTY
CAP REF30 CNT
R
TRK MIM
VR203
5V
C203
TA8617S
CAPSTAN PG
(CAPSTAN SPEED ERROR VOLTAGE)
ADDER
CAPC
R215
C236
LPF
C-MIX(-)
LPF
R214
C213
C-MIX(+)
REC
REC CTL
4.43MHz
CAPSTAN DRIVER
CAPSTAN MOTOR
CFG COIL
CTL HEAD

10. SCHEMATICS

10-1. Regulator

10-2. Power

10-3. System Control

10-4. Servo

10-5. Luminance/Chrominance

10-6. Audio

10-7. Pre-Amp

10-8-1. Tuner (SVX301, VX-710)

10-8-2. Tuner (VB-710)

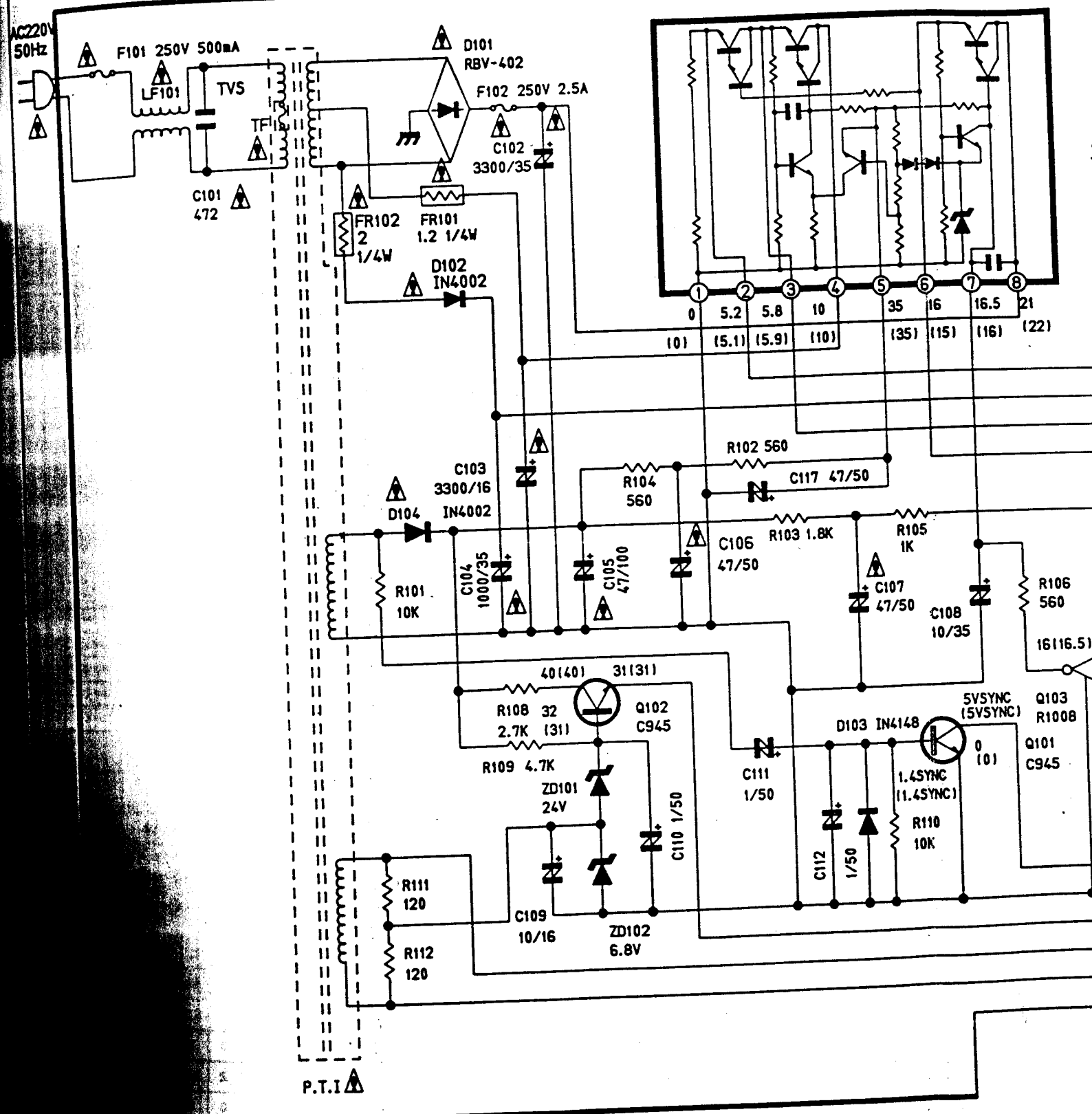
10-9. Timer/Input Key

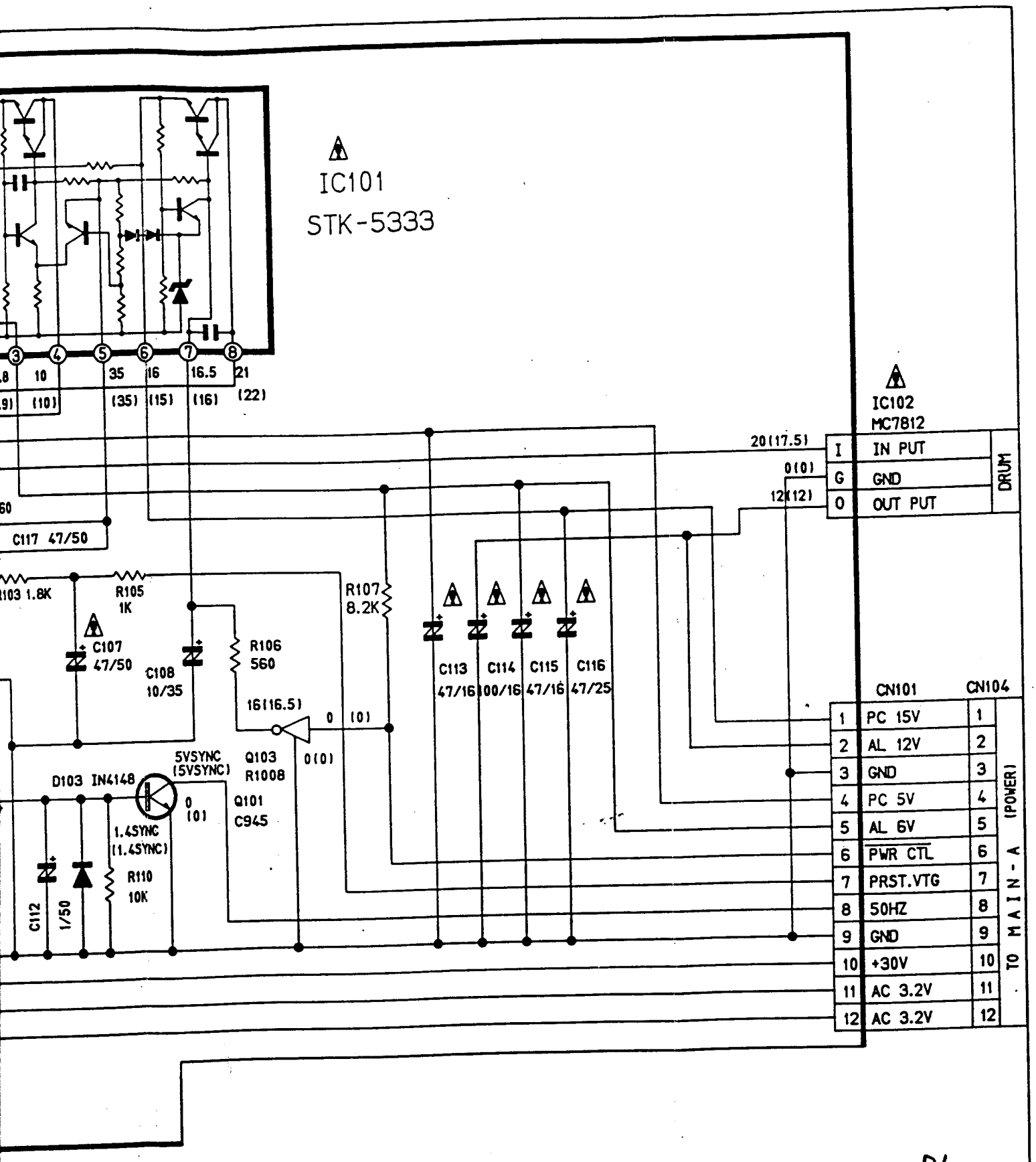
10-10. Deck Joint

10-11. Function Switch

10-12. Remote Control

10-1. Regulator




IC101
STK-5333
IC102
MC7812
20(17.5)
0(0)
12(12)
I
G
O
IN PUT
GND
OUT PUT
DRUM
3
4
5
6
7
8
10
(10)
35
(35)
16
(15)
16.5
(16)
21
(22)
C117 47/50
R103 1.8K
R105
1K
R107
8.2K
C107
47/50
C108
10/35
R106
560
C113
47/16
C114
100/16
C115
47/16
C116
47/25
16(16.5)
0
(0)
0(0)
5VSYNC
(5VSYNC)
Q103
R1008
D103 IN4148
Q101
C945
1.4SYNC
(1.4SYNC)
R110
10K
C112
1/50
CN101
CN104
1 PC 15V 1
2 AL 12V 2
3 GND 3
4 PC 5V 4
5 AL 6V 5
6 PWR CTL 6
7 PRST.VTG 7
8 50HZ 8
9 GND 9
10 +30V 10
11 AC 3.2V 11
12 AC 3.2V 12
TO MAIN-A (POWER)

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 101						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	5	5	5	5	5	5	5
PIN 3	6	6	6	6	6	6	6
PIN 4	10	9	9	9	9	9	9
PIN 5	21	21	21	21	21	21	21
PIN 6	15	15	15	15	15	15.5	15.5
PIN 7	17	16.5	16.5	16.5	16.5	16.5	16.5
PIN 8	22	21	22	21	21	21	21

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 102						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
I	19	19	19	19	19	19	19
G	0	0	0	0	0	0	0
O	13	12.5	12.5	12.5	12.5	13	13

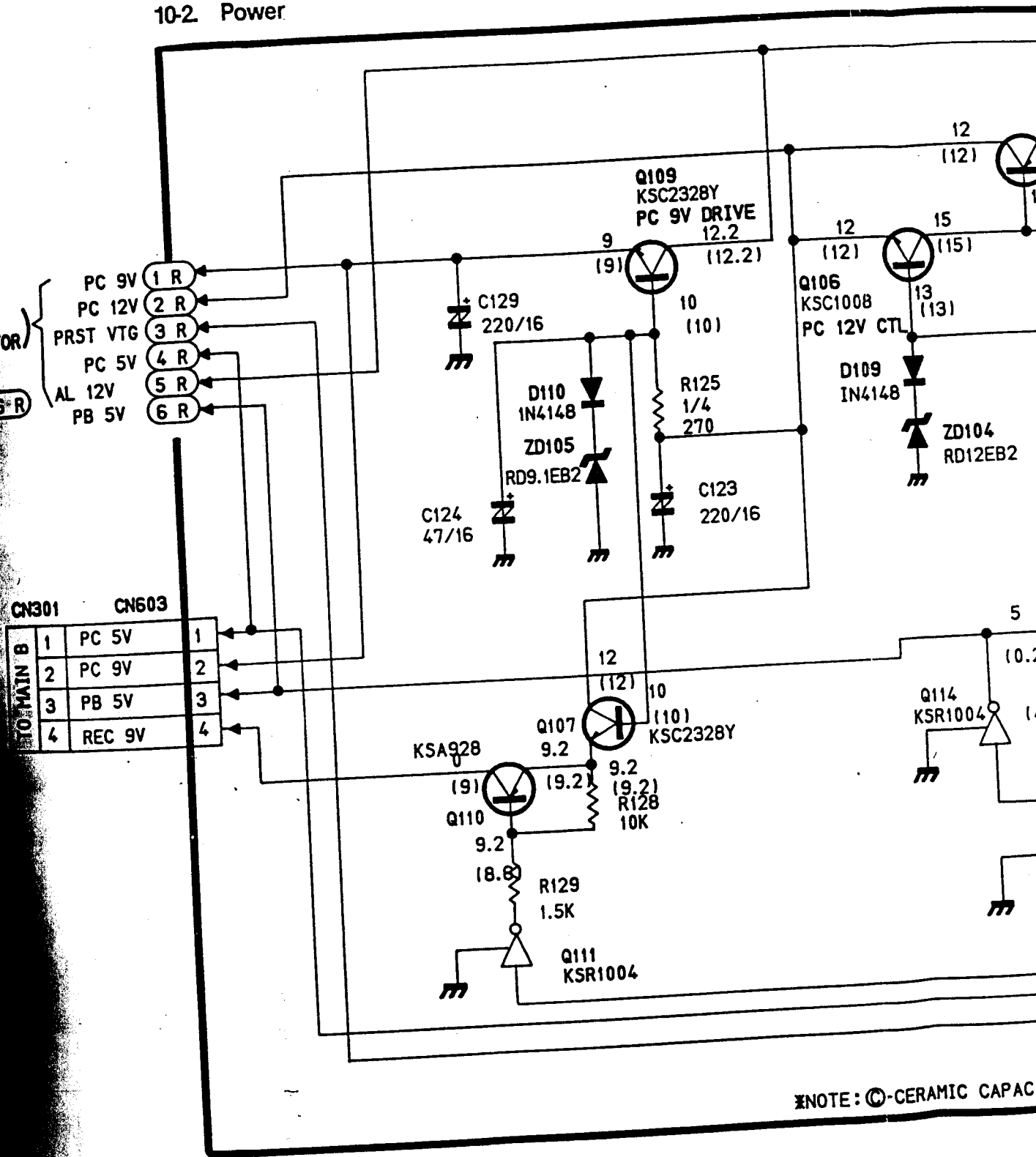
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

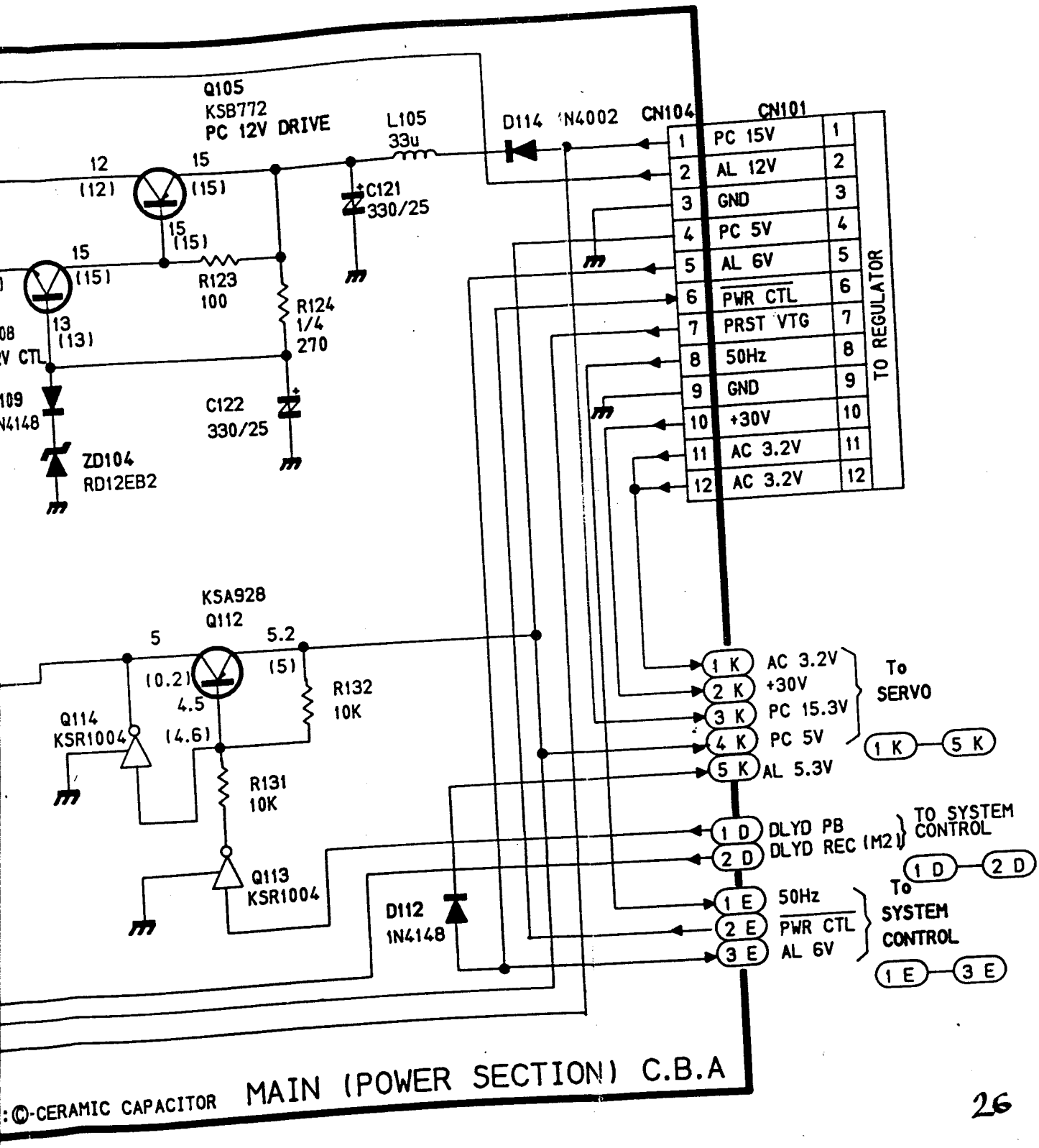
MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
Tr No.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 101	0	5	1.2	0	5	1.2	0	5	1.2	0	5	1.2	0	5	1.2	0	5	2	0	5	2
Q 102	32	32	32.5	31	31	32	32	32	32.5	31	31.5	32	31.5	32	32.5	31.5	32	32.5	31.5	32	32.5
Q 103	0	16	0	0	16	0	0	16	0	0	16	0	0	16.5	0	0	16.5	0	0	16.5	0

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
	12	15	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15
	15	13	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13
	12	10	4.2	12	10	4.2	12	10	4.2	12	10	9.2	12	10	9.2	12	10	9.2	12	10
	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10
	0	9.2	9.2	9	8.6	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2
	2	0	0	0	5	0	9.2	0	0	9.2	0	0	9.2	0	0	9.2	0	0	9.2	0
	2	4.6	5.	0.2	4.6	5.2	5	4.5	5	0.2	4.6	5	0.2	4.6	5	0.2	4.6	5	0.2	4.6
	4	0	0	4	0	0	0	5	0	4	0	0	4	0	0	0	5	0	0	5
	0.2	4	0	0.2	4	0	5	0	0	0.2	4	0	0.2	4	0	5	0	0	5	0

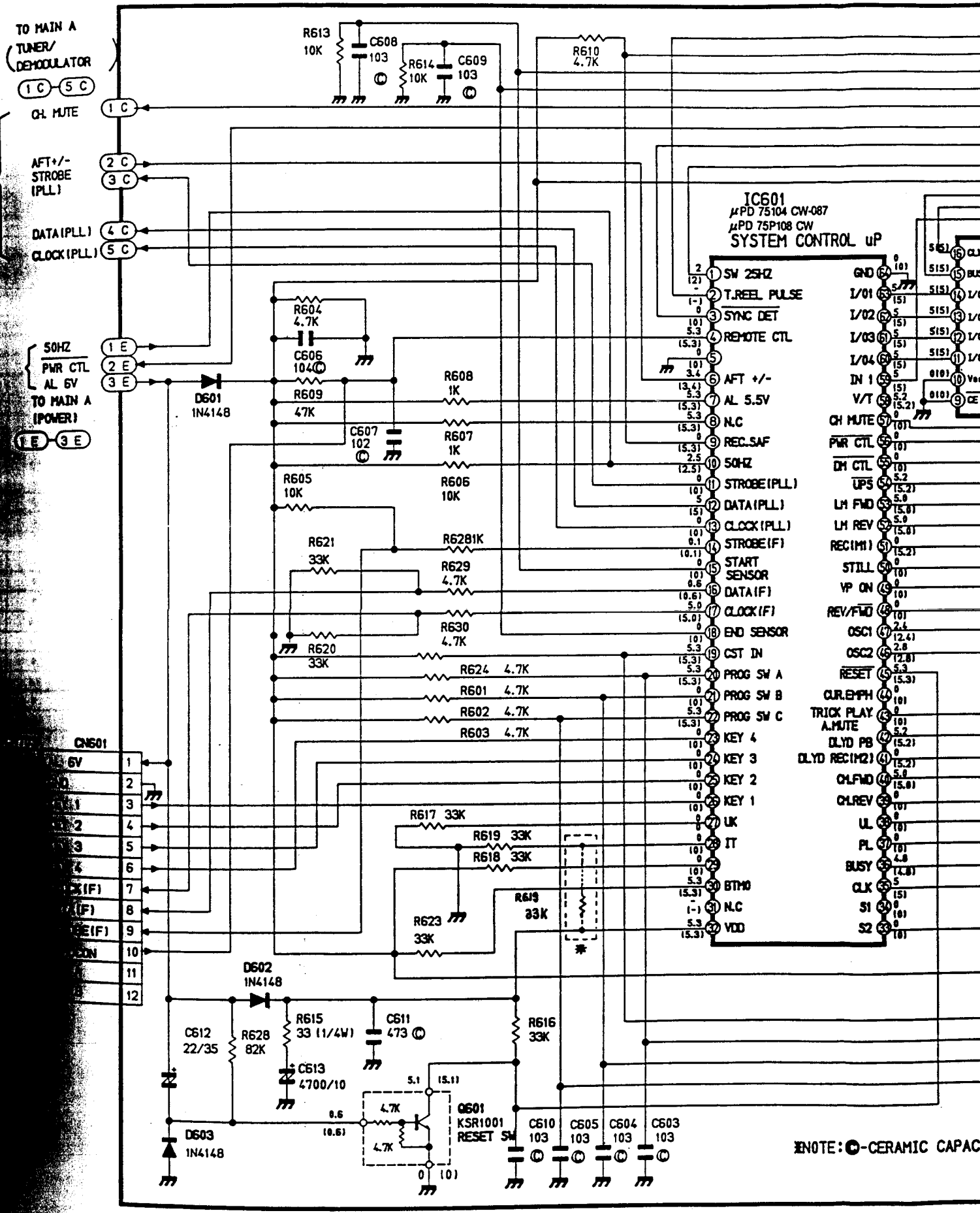
10-2. Power


TO MAIN A
(TUNER/
DEMODULATOR)
PC 9V 1 R
PC 12V 2 R
PRST VTG 3 R
PC 5V 4 R
AL 12V 5 R
PB 5V 6 R
6 R
C129
220/16
Q109
KSC2328Y
PC 9V DRIVE
12.2
(12.2)
9
(9)
10
(10)
D110
1N4148
ZD105
RD9.1EB2
R125
1/4
270
C124
47/16
C123
220/16
Q106
KSC1008
PC 12V CTL
12
(12)
15
(15)
13
(13)
D109
IN4148
ZD104
RD12EB2
CN301
CN603
TO MAIN B
1 PC 5V 1
2 PC 9V 2
3 PB 5V 3
4 REC 9V 4
Q107
9.2
KSC2328Y
KSA928
Q110
9.2
(8.6)
R129
1.5K
Q111
KSR1004
R128
10K
Q114
KSR1004
5
(0.2
NOTE: ©-CERAMIC CAPAC

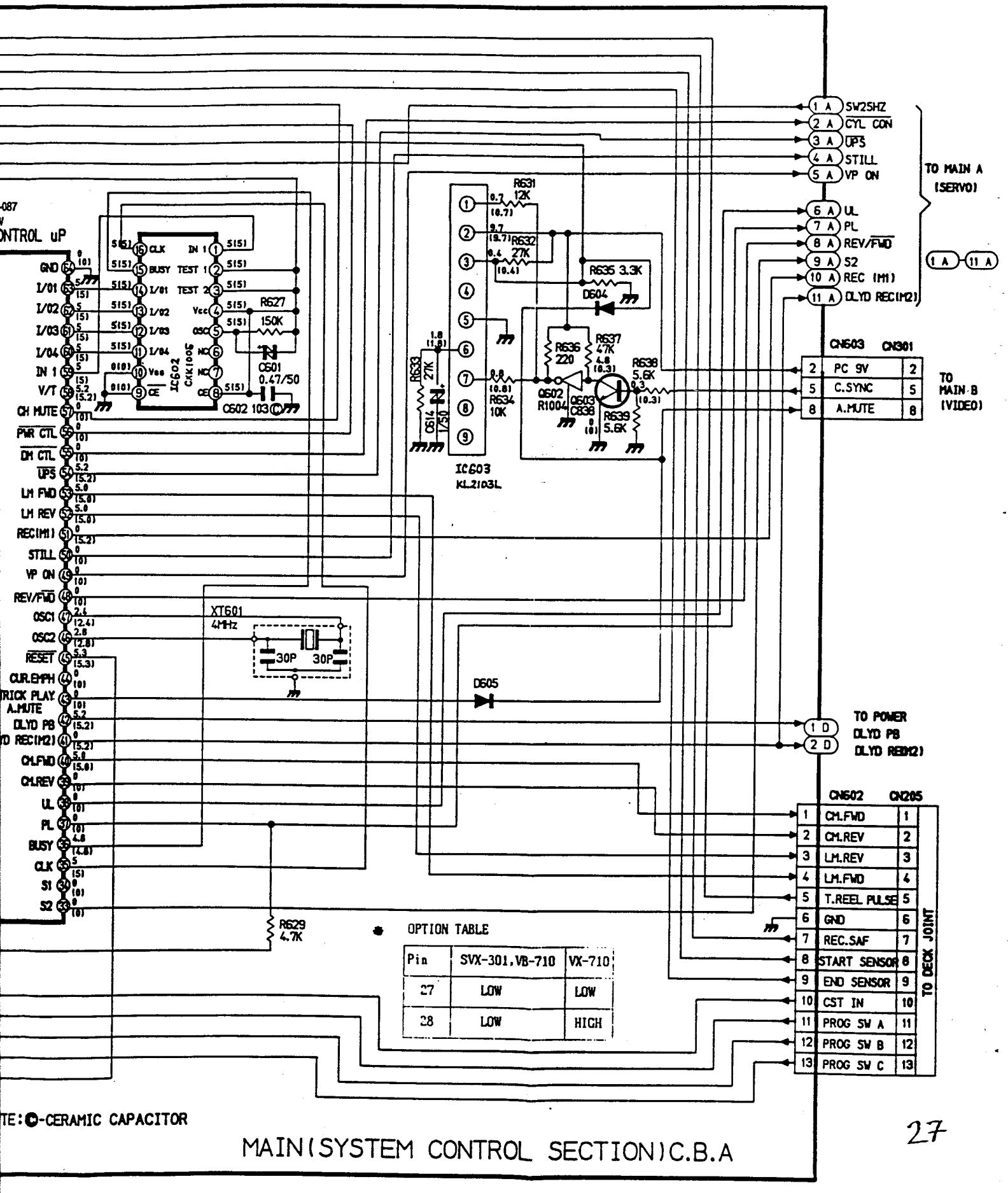


: ©-CERAMIC CAPACITOR MAIN (POWER SECTION) C.B.A

10-3 System Control



NOTE: ©-CERAMIC CAPAC



● OPTION TABLE

Pin	SVX-301, VB-710	VX-710
27	LOW	LOW
28	LOW	HIGH

TE: ©-CERAMIC CAPACITOR

MAIN(SYSTEM CONTROL SECTION)C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 801						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	4.5	2.0	2.0	2.1	2.1	2.1	2.1
PIN 2	0	—	—	—	—	—	—
PIN 3	0	0	0	0	0	0	0
PIN 4	5	5	5	5	5	5	5
PIN 5	0	0	0	0	0	0	0
PIN 6	3.4	3.4	3.4	3.4	3.4	3.4	3.4
[illegible]	5.1	5.1	5.1	5.1	5.1	5.1	5.1
[illegible]	5.1	5.1	5.1	5.1	5.1	5.1	5.1
[illegible]	0	5	0	5	5	5	5
[illegible]	2.5	2.5	2.5	2.5	2.5	2.5	2.5
[illegible]	0	0	0	0	0	0	0
[illegible]	5	5	5	5	5	5	5
[illegible]	0	0	0	0	0	0	0
[illegible]	0.1	0.1	0.1	0.1	0.1	0.1	0.1
[illegible]	0	0	0	0	0	0	0
[illegible]	0.6	0.6	0.6	0.6	0.6	0.6	0.6
[illegible]	5	5	5	5	5	5	5
[illegible]	0	0	0	0	0	0	0
[illegible]	5.1	5.1	5.1	5.1	5.1	5.1	5.1
[illegible]	0	5.1	5.1	5.1	5.1	0	5.1
[illegible]	4.8	0	0	0	0	4.8	0
[illegible]	0	5.1	5.1	0	0	5	5
[illegible]	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0
[illegible]	5.1	5	5	5	5	5	5
[illegible]	5.1	5	5	5	5	5	5
[illegible]	0	0	0	0	0	0	0
[illegible]	5.1	5	5	5	5	5	5
[illegible]	0	0	0	5	5	5	5
[illegible]	0	0	0	0	0	0	0
[illegible]	5	5	5	5	5	5	5
[illegible]	4.8	4.8	4.8	4.8	4.8	4.8	4.8
[illegible]	0	0	0	0	0	0	0
[illegible]	0	0	0	0	0	0	0

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 801						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 39	4.8	0	0	4.8	0	4.8	0
PIN 40	4.8	4.8	4.8	0	4.8	0	5
PIN 41	0	5	0	0	0	0	0
PIN 42	0	0	5	0	0	5	5
PIN 43	0	0	0	0	0	5	5
PIN 44	0	0	0	0	0	0	0
PIN 45	5	5	5	5	5	5	5
PIN 46	2.8	2.8	2.8	2.8	2.8	2.8	2.8
PIN 47	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 48	0	0	0	5	0	5	0
PIN 49	0	0	0	5	5	5	5
PIN 50	0	0	0	0	0	0	0
PIN 51	0	5	0	0	0	0	0
PIN 52	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 53	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 54	0	5	5	5	5	5	5
PIN 55	5	0	0	5	5	0	0
PIN 56	0	0	0	0	0	0	0
PIN 57	0	0	0	0	0	0	0
PIN 58	5	5	5	5	5	5	5
PIN 59	5	5	5	5	5	5	5
PIN 60	5	5	5	5	5	5	5
PIN 61	5	5	5	5	5	5	5
PIN 62	5	5	5	5	5	5	5
PIN 63	5	5	5	5	5	5	5
PIN 64	0	0	0	0	0	0	0

MODE / PIN NO.	STO
PIN 1	5
PIN 2	5.1
PIN 3	5.1
PIN 4	5.1
PIN 5	5.1
PIN 6	0
PIN 7	0
PIN 8	5.
PIN 9	0
PIN 10	0
PIN 11	5
PIN 12	5
PIN 13	5
PIN 14	5
PIN 15	
PIN 16	5

ERSE SEARCH
WARD SEARCH

	FWD S.
	0
	5
	0
	5
	5
	0
	5
	2.8
	2.4
	0
	5
	0
	0
	4.8
	4.8
	5
	0
	0
	0
	5
	5
	5
	5
	5
	5
	0

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 602						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	5	5	5	5	5	5	5
PIN 2	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 3	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 4	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 5	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 6	0	0	0	0	0	0	0
PIN 7	0	0	0	0	0	0	0
PIN 8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 9	0	0	0	0	0	0	0
PIN 10	0	0	0	0	0	0	0
PIN 11	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 12	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 13	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 14	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 15	5	5	5	5	5	5	5
PIN 16	5.1	5.1	5.1	5.1	5.1	5.1	5.1

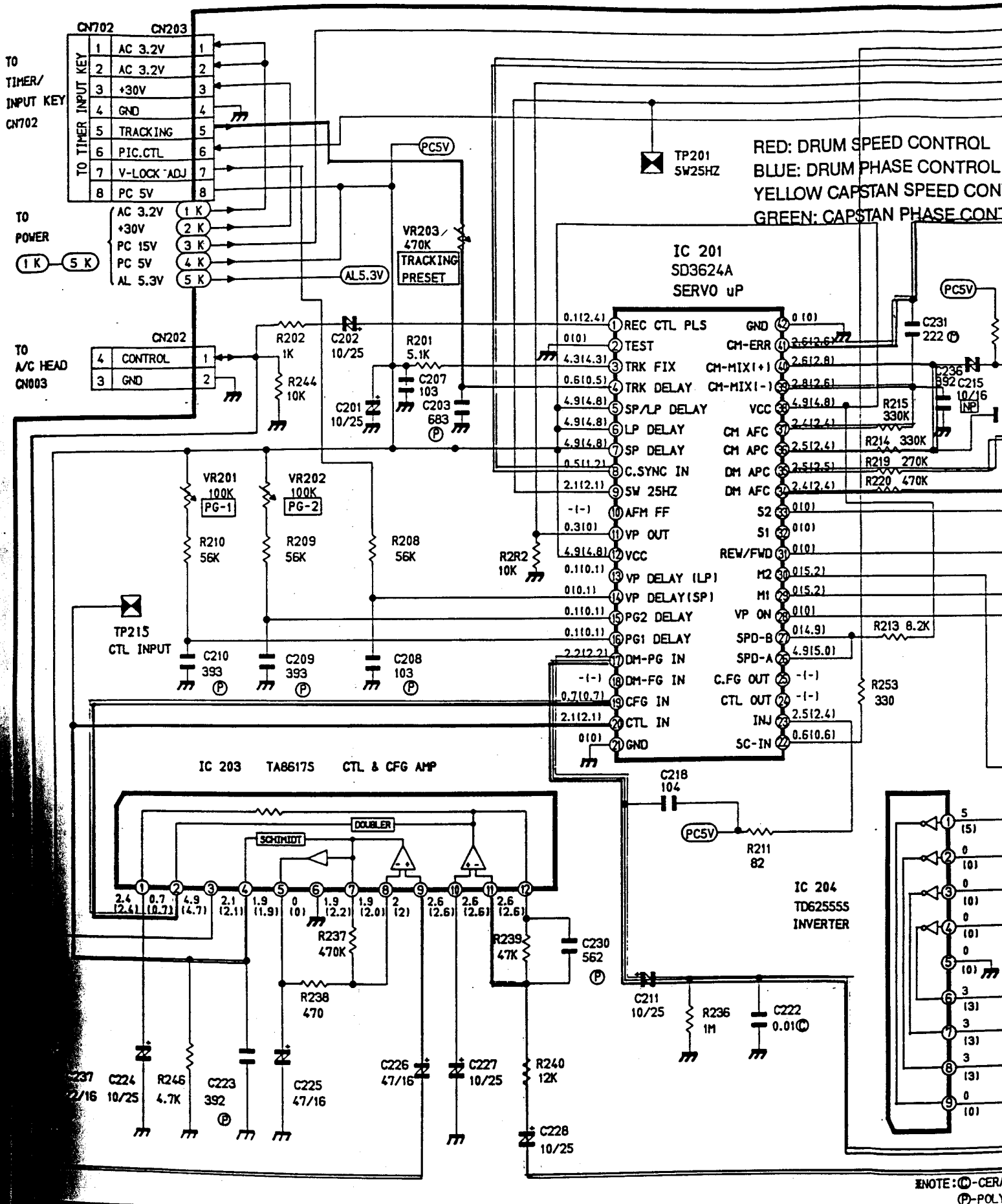
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARC

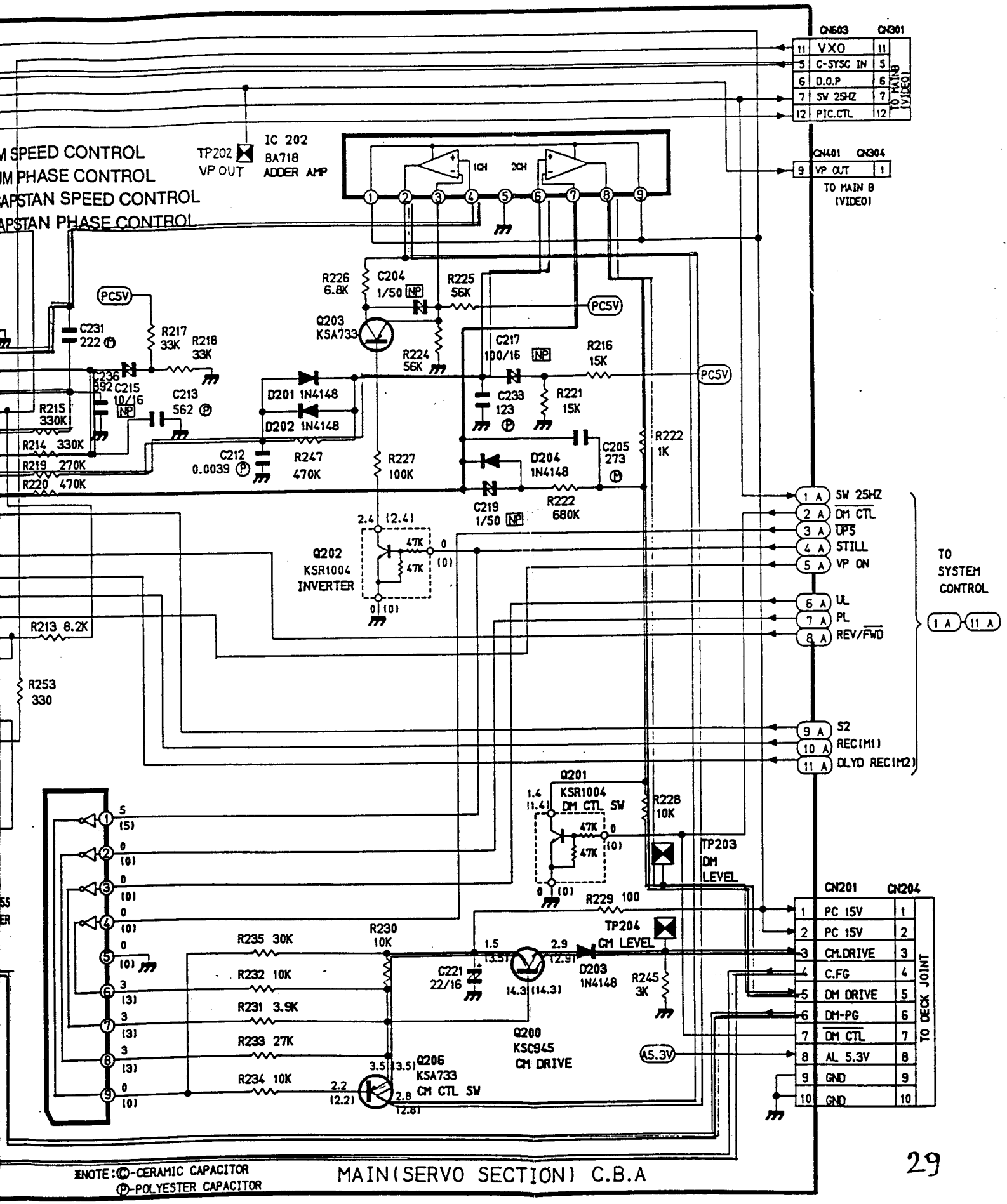
MODE / PIN NO.	IC 603						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.7	0.7	0.7	0.7	0.7	0.7	0.7
PIN 2	9.7	9.7	9.7	9.7	9.7	9.7	9.7
PIN 3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
PIN 4	2.2	2.2	2.2	2.2	2.2	2.2	2.2
PIN 5	0	0	0	0	0	0	0
PIN 6	1.8	1.8	1.8	1.8	1.8	1.8	1.8
PIN 7	0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 8	6	6	6	6	6	6	6

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
Tr NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 601	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8
Q 602	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5
Q 603	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3

10-4. Servo

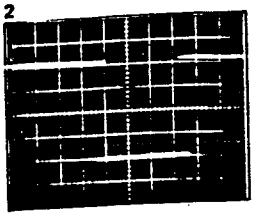

CN702
CN203
TO TIMER/ INPUT KEY CN702
TO TIMER INPUT KEY
1 AC 3.2V
2 AC 3.2V
3 +30V
4 GND
5 TRACKING
6 PIC.CTL
7 V-LOCK ADJ
8 PC 5V
TO POWER
1K
5K
AC 3.2V
+30V
PC 15V
PC 5V
AL 5.3V
PC5V
AL5.3V
VR203 470K
TRACKING PRESET
TP201 5W25HZ
RED: DRUM SPEED CONTROL
BLUE: DRUM PHASE CONTROL
YELLOW CAPSTAN SPEED CON
GREEN: CAPSTAN PHASE CONT
IC 201
SD3624A
SERVO uP
REC CTL PLS
TEST
TRK FIX
TRK DELAY
SP/LP DELAY
LP DELAY
SP DELAY
C.SYNC IN
SW 25HZ
AFM FF
VP OUT
VCC
VP DELAY (LP)
VP DELAY(SP)
PG2 DELAY
PG1 DELAY
DM-PG IN
DM-FG IN
CFG IN
CTL IN
GND
CM-ERR
CM-MIX(+)
CM-MIX(-)
VCC
CM AFC
CM APC
DM APC
DM AFC
S2
S1
REW/FWD
M2
M1
VP ON
SPD-B
SPD-A
C.FG OUT
CTL OUT
INJ
SC-IN
CN202
TO A/C HEAD CN003
4 CONTROL
3 GND
R202 1K
R244 10K
R201 5.1K
C202 10/25
C201 10/25
C207 103
C203 683 (P)
C231 222 (P)
C236 392
C215 10/16 NP
R215 330K
R214 330K
R219 270K
R220 470K
VR201 100K PG-1
VR202 100K PG-2
R210 56K
R209 56K
R208 56K
R2R2 10K
TP215 CTL INPUT
C210 393 (P)
C209 393 (P)
C208 103 (P)
R213 8.2K
R253 330
IC 203 TA86175 CTL & CFG AMP
DOUBLER
SCHMIDT
C218 104
PC5V
R211 82
IC 204 TD62555S INVERTER
R237 470K
R238 470
R239 47K
C230 562 (P)
C211 10/25
R236 1M
C222 0.01 (C)
C224 10/25
R246 4.7K
C223 392 (P)
C225 47/16
C226 47/16
C227 10/25
R240 12K
C228 10/25
NOTE: (C)-CER
(P)-POL



※NOTE: Ⓒ-CERAMIC CAPACITOR
Ⓟ-POLYESTER CAPACITOR

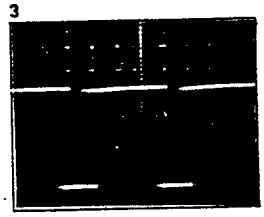
MAIN(SERVO SECTION) C.B.A

2



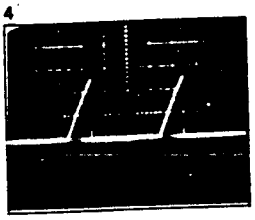
TP215
1V/5msec/cm
REC/PLAY

3



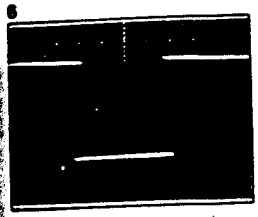
IC201-1
1V/10msec/cm
REC/PLAY

4



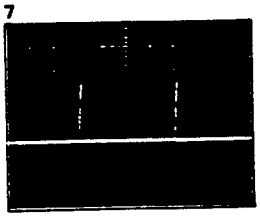
IC201-4
0.5V/10msec/cm
REC/PLAY

6



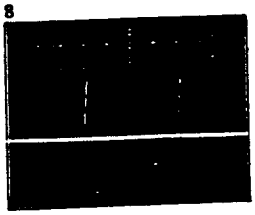
IC201-9
1V/5msec/cm
REC/PLAY

7



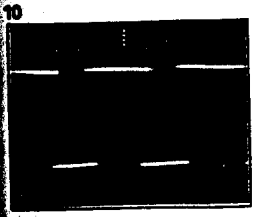
IC201-15
1V/10msec/cm
REC/PLAY

8



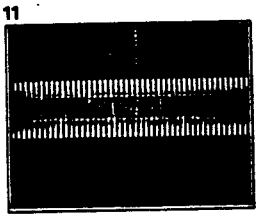
IC201-16
1V/10msec/cm
REC/PLAY

10



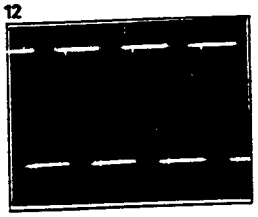
IC201-20
1V/10msec/cm
PLAY

11



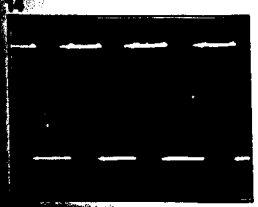
IC201-22
0.1V/1μsec/cm
REC/PLAY

12

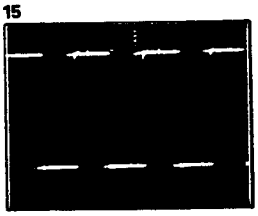


IC201-34
1V/10μsec/cm
REC/PLAY

14



15

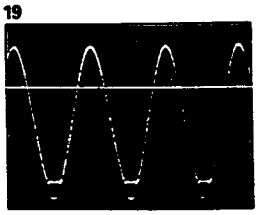


IC201-37
1V/10μsec/cm
REC/PLAY

16

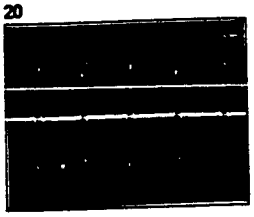
IC203-2
1V/0.5msec/cm
REC/PLAY

19

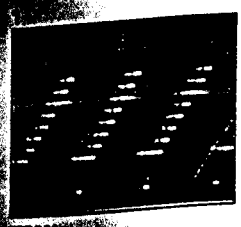


IC203-12
0.5V/0.5msec/cm
REC/PLAY

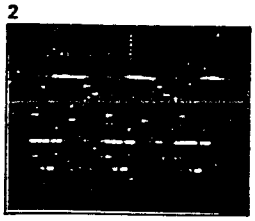
20



IC201-17
0.2V/10msec/cm
REC/PLAY

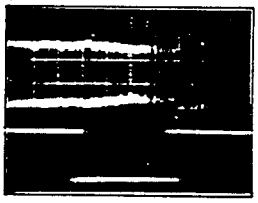


2



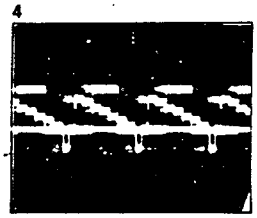
TP302
0.5V/20μsec/cm
REC/PLAY

3

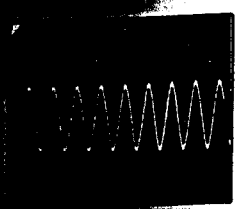


TP303
0.1V/5msec/cm
PLAY

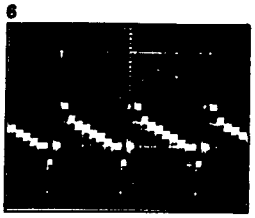
4



TP304
0.2V/20μsec/cm
PLAY

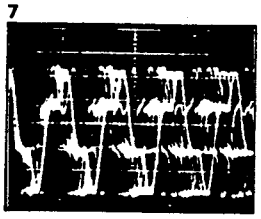


6



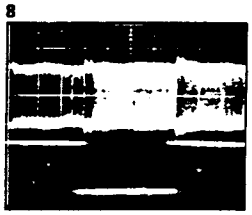
TP306
0.2V/20μsec/cm
REC

7



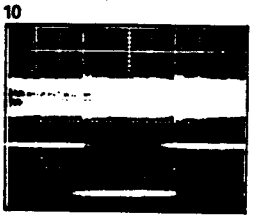
TP310
1V/0.1μsec/cm
REC

8



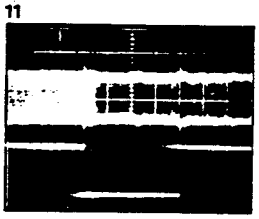
IC301-2
10mV/5msec/cm
PLAY

10



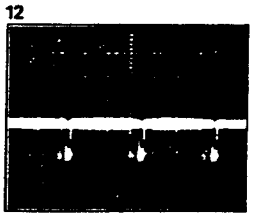
IC301-5
20mV/5msec/cm
PLAY

11



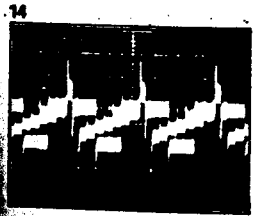
IC301-16
0.5V/5msec/cm
PLAY

12



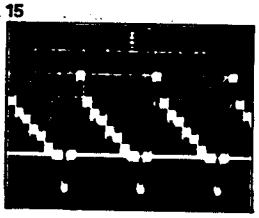
IC302-1
0.1V/20μsec/cm
REC

14



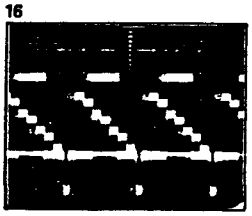
IC302-3
[illegible]mV/20μsec/cm
[illegible]AY

15

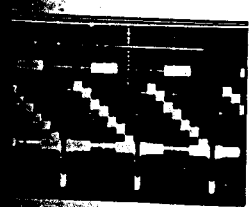


IC302-3
0.1V/20μsec/cm
REC

16

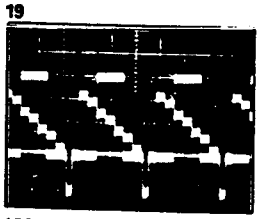


IC302-5
0.1V/20μsec/cm
PLAY



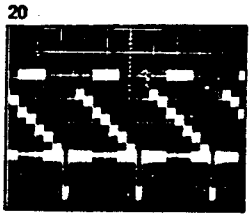
[illegible]10
[illegible]20μsec/cm

19



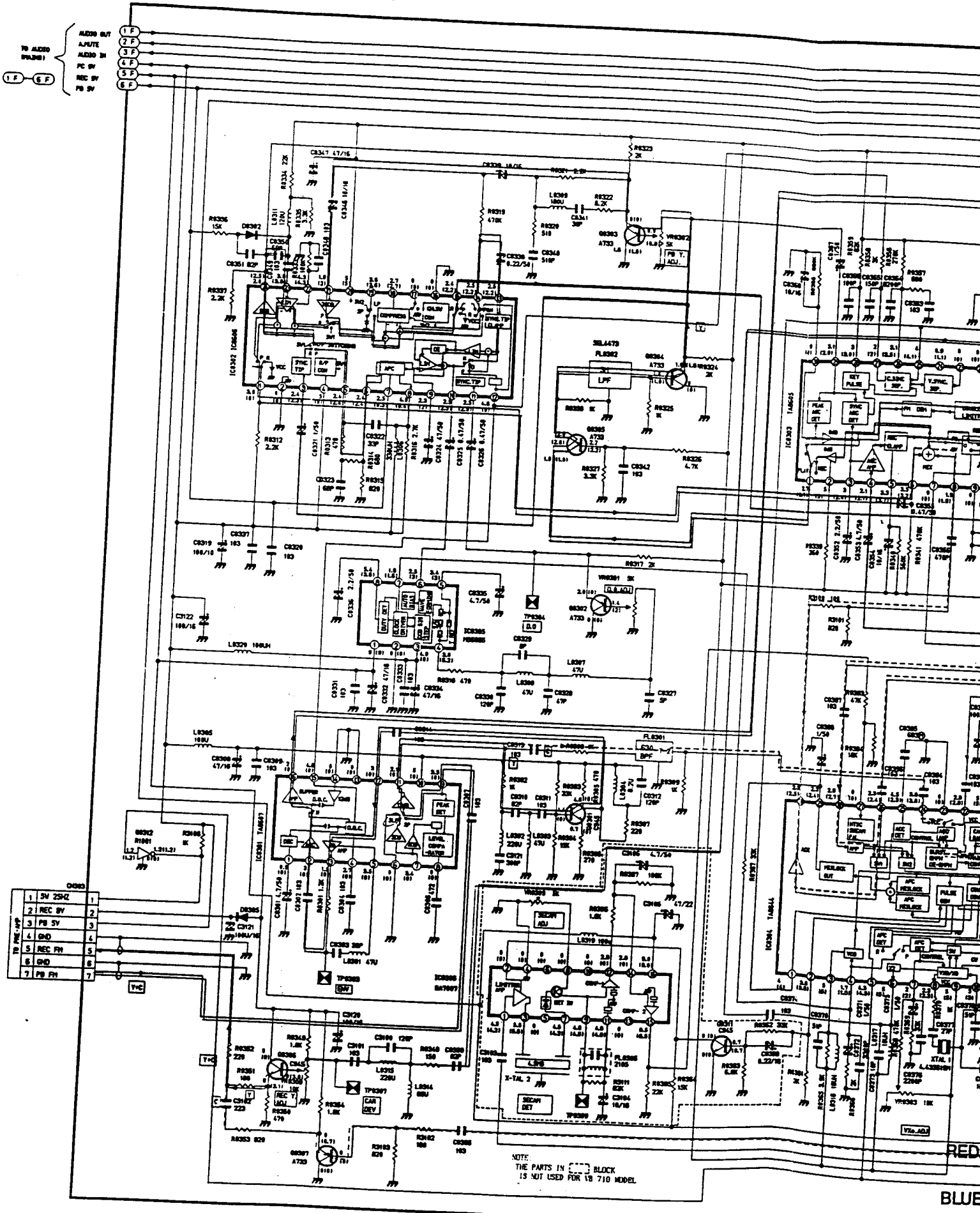
IC302-11
0.1V/20μsec/cm
PLAY

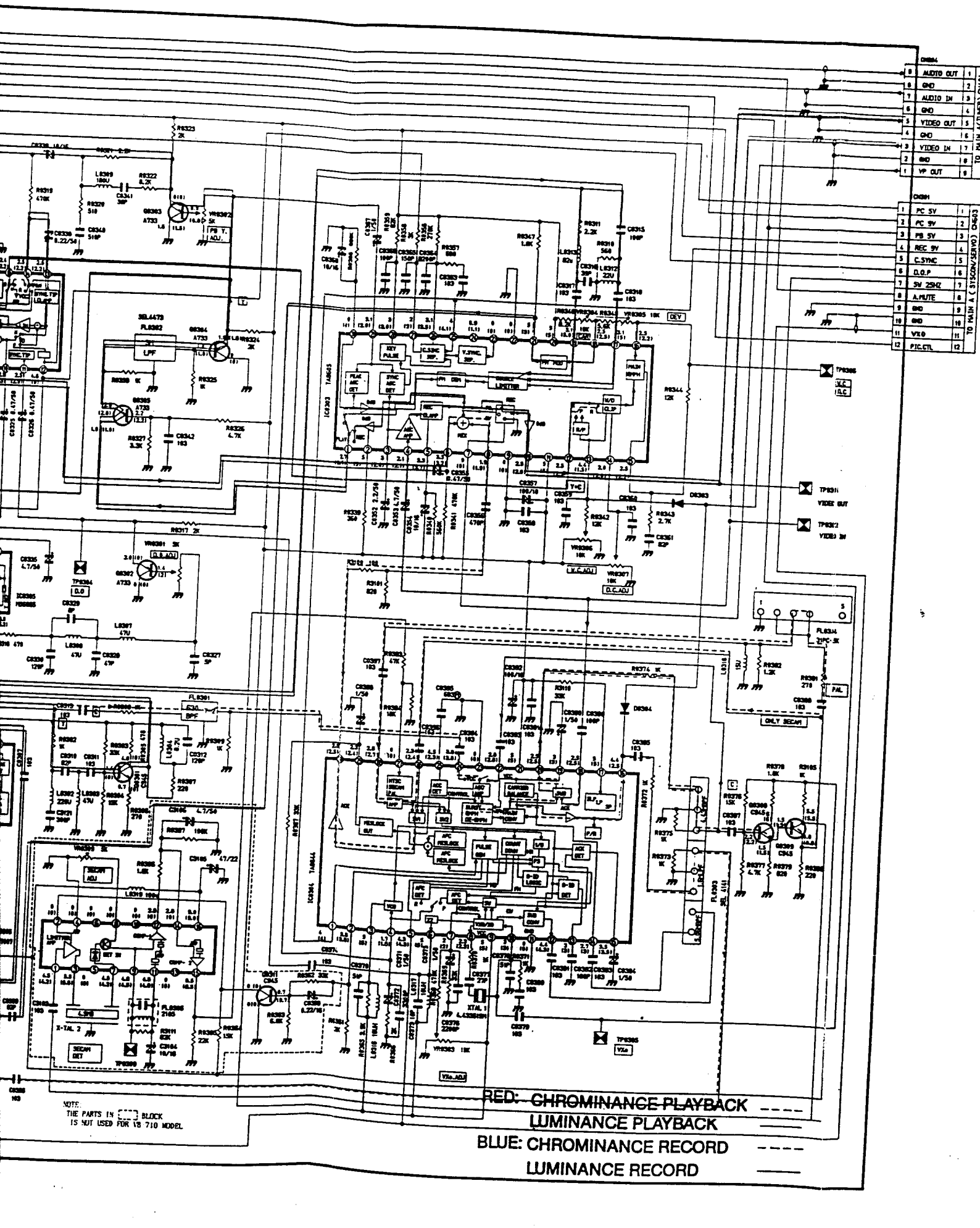
20



IC302-13
0.2V/20μsec/cm
PLAY

10-5. Luminance/Chrominance




RED: CHROMINANCE PLAYBACK
LUMINANCE PLAYBACK
BLUE: CHROMINANCE RECORD
LUMINANCE RECORD
NOTE:
THE PARTS IN [ ] BLOCK
IS NOT USED FOR VB 710 MODEL

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 301						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0.9	0	0	0.9	0.9
PIN 2	0	0	3.0	0	0	3.0	3.0
PIN 3	0	0	1.5	0	0	1.5	1.5
PIN 4	0	0	2.7	0	0	2.6	2.7
PIN 5	0.5	0	3.5	0	0	3.4	3.5
PIN 6	0	0	0	0	0	0	0
PIN 7	0	0	3.4	0	0	3.4	3.5
PIN 8	0	0	0	0	0	0	0.1
PIN 9	0	0	3.5	0	0	3.4	3.5
PIN 10	0	0	4.9	0	0	4.9	4.9
PIN 11	0	0	2.1	0	0	2.1	2.1
PIN 12	0	0	3.0	0	0	3.0	3.0
PIN 13	0	0	0	0	0	0	0
PIN 14	0	0	0	0	0	0	0
PIN 15	0	0	4.8	0	0	4.8	4.8
PIN 16	0	0	2.0	0	0	2.0	2.0

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 302						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.2	3.1	3.1	0.2	0.2	3.1	3.1
PIN 2	0	0	0	0	0	0	0
PIN 3	2.4	2.3	2.4	2.4	2.4	2.4	2.4
PIN 4	0.2	5	4.9	0.2	0	5	5.0
PIN 5	0.6	2.4	2.4	0.6	0.6	2.4	2.4
PIN 6	0.6	2.4	2.4	0.6	0.6	2.4	2.4
PIN 7	2.5	2.5	2.4	2.5	2.5	2.5	2.4
PIN 8	0.3	5.0	4.9	0.3	0.3	4.9	4.9
PIN 9	2.0	2.0	2.3	1.9	1.9	2.3	2.3
PIN 10	2.2	2.2	2.5	2.2	2.2	2.5	2.5
PIN 11	2.5	2.5	2.5	2.5	2.5	2.6	2.5
PIN 12	0.2	0	4.8	2.0	0.2	4.8	4.8
PIN 13	2.4	2.5	2.5	2.4	2.4	2.5	2.5
PIN 14	2.0	2.2	2.5	1.9	2.0	2.5	2.5
PIN 15	2.3	2.2	2.4	2.3	2.3	2.4	2.4
PIN 16	0	0	0	0	0	0	0
PIN 17	0	0	0	0	0	0	0
PIN 18	2.7	2.7	2.7	2.7	2.6	2.7	2.7
PIN 19	3.6	3.6	3.6	3.6	3.6	3.6	3.6
PIN 20	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 21	1.8	2.0	1.9	1.9	1.8	1.9	1.9
PIN 22	4.3	4.3	4.3	4.3	4.3	4.3	4.3
PIN 23	2.8	3.8	3.8	3.9	3.9	3.8	3.8
PIN 24	2.1	2.0	2.0	2.1	2.1	2.0	2.0

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 303						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	2.7	2.7	2.7	2.7	2.7	2.7	2.7
PIN 2	4.5	5.0	5.0	4.5	4.5	5.0	5.0
PIN 3	2.5	2.4	3.0	2.5	2.5	3.0	3.0
PIN 4	2.1	2.1	2.1	2.1	2.1	2.1	2.1
PIN 5	3.6	3.7	3.3	3.6	3.6	3.3	3.0
PIN 6	3.3	3.2	3.5	3.3	3.3	3.7	3.6
PIN 7	0	0	0	0	0	0	0
PIN 8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
PIN 9	0	0	0	0	0	0	0
PIN 10	1.9	1.5	2.5	1.9	1.9	2.7	2.9
PIN 11	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 12	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 13	1.5	1.5	5.0	1.5	1.5	4.4	4.4
PIN 14	2.0	2.0	2.0	2.0	2.3	2.0	2.0
PIN 15	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 16	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 17	5.0	5.0	3.1	5.0	5.0	3.1	3.1
PIN 18	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 19	5.0	5.0	3.1	5.0	5.0	3.1	3.1
PIN 20	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 21	3.0	3.0	5.0	3.0	3.0	5.0	5.0
PIN 22	0	0	0	0	0	0	0
PIN 23	0	0	0	0	0	0	0
PIN 24	0.9	1.1	0.9	0.9	0.9	0.9	0.9
PIN 25	2.0	4.1	0.4	2.0	2	0.4	0.4
PIN 26	3.6	3.5	3.1	3.6	3.6	3.2	3.4
PIN 27	2.1	2.0	2.0	2.2	2.1	2.2	2.5
PIN 28	1.4	3.7	0.4	1.4	1.4	0.4	0.4
PIN 29	3.0	2.9	3.1	3.0	3.0	3.1	3.4
PIN 30	0	0	0	0	0	0	0

E SEARCH
RD SEARCH

FWD S.
2.7
5.0
3.0
2.1
3.0
3.6
0
1.9
0
2.9
5.0
2.5
4.4
2.0
2.5
2.5
3.1
2.5
3.1
5.0
5.0
0
0
0.9
0.4
3.4
2.5
0.4
3.4
0

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

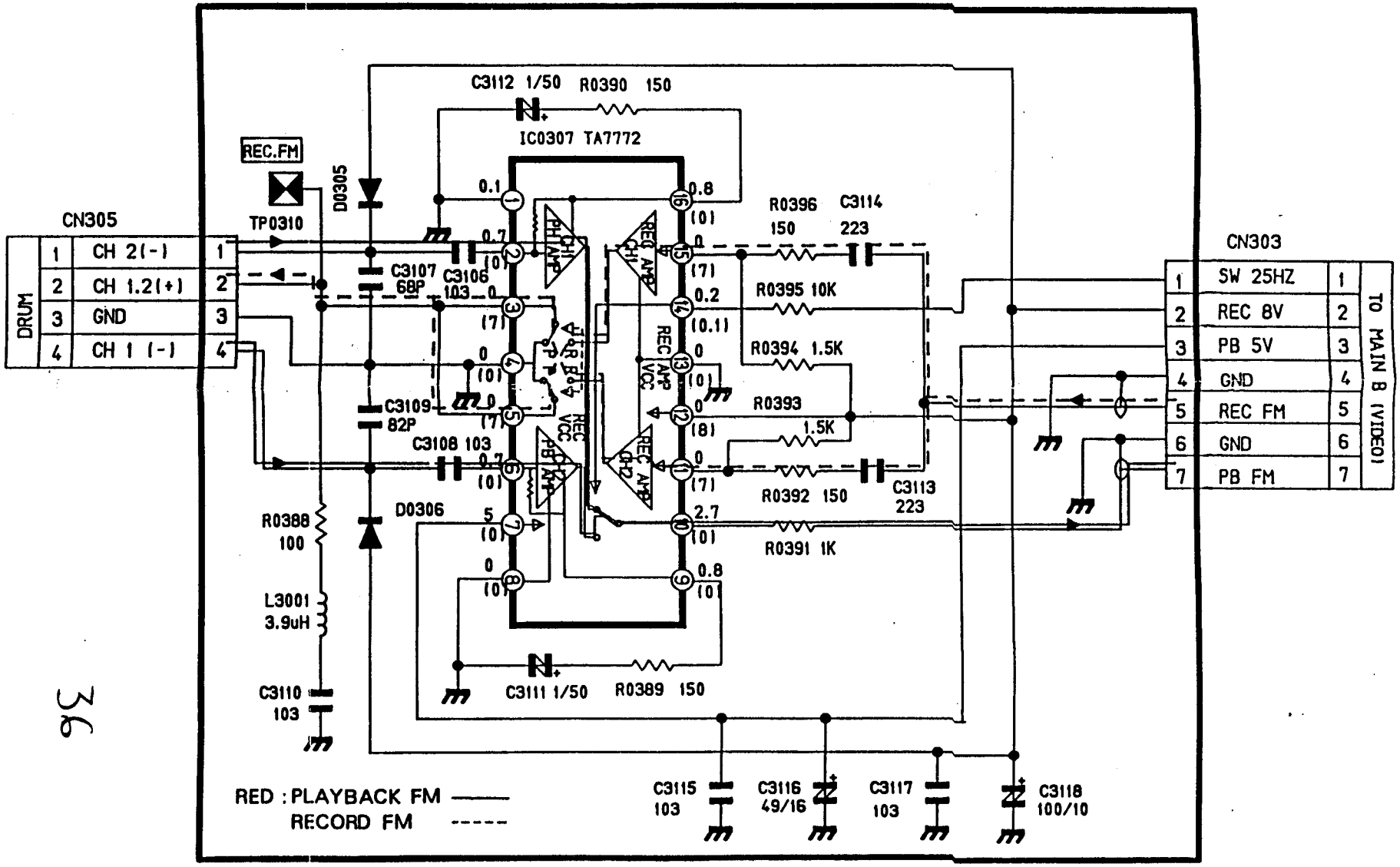
MODE / PIN NO.	IC 304						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.8	4	0.4	0.9	0.8	0.9	4.0
PIN 2	3.7	3.8	3.8	3.7	3.7	3.8	3.8
PIN 3	5.0	5	5.0	5.0	5.0	5.0	5.0
PIN 4	1.7	1.8	1.7	1.7	1.7	2.3	1.8
PIN 5	4.3	4.3	4.3	4.3	4.3	4.3	4.3
PIN 6	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 7	2.2	2.0	2.0	2.2	2.2	2.0	2.0
PIN 8	2.5	2.3	2.3	2.5	2.5	2.3	2.3
PIN 9	5.0	50	5.0	5.0	5.0	5.0	5.0
PIN 10	3.2	3.0	3.0	3.1	3.1	3.0	3.0
PIN 11	0	0	0	0	0	0	0
PIN 12	4.3	4.3	4.4	4.3	4.3	4.3	4.3
PIN 13	3.0	3	3.0	3.0	3.0	3.0	3.0
PIN 14	2.7	3	2.7	2.7	2.7	2.7	3.0
PIN 15	2.4	2.4	2.3	2.3	2.3	2.4	2.4
PIN 16	0	0	4.4	0	0	4.4	0
PIN 17	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 18	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 19	2.9	3.0	3.0	2.9	3.0	3.0	3
PIN 20	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 21	5.0	5	5.0	5.0	5.0	5.0	5.0
PIN 22	2.7	2.8	2.8	2.7	2.7	2.8	2.8
PIN 23	0	0	0.0	0	0	0	0.0
PIN 24	1.7	1.7	2.8	1.7	1.7	2.8	1.7
PIN 25	3.6	2.3	4.5	3.6	3.6	4.0	2.3
PIN 26	2.4	2.4	2.3	2.4	2.4	2.3	2.4
PIN 27	0	0	0.0	0	0	0	0.0
PIN 28	2.7	2.7	2.6	2.7	2.7	2.6	2.7
PIN 29	1.7	2.4	2.3	1.6	1.6	2.3	2.4
PIN 30	2.8	2.8	0	2.8	2.8	0	2.8

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

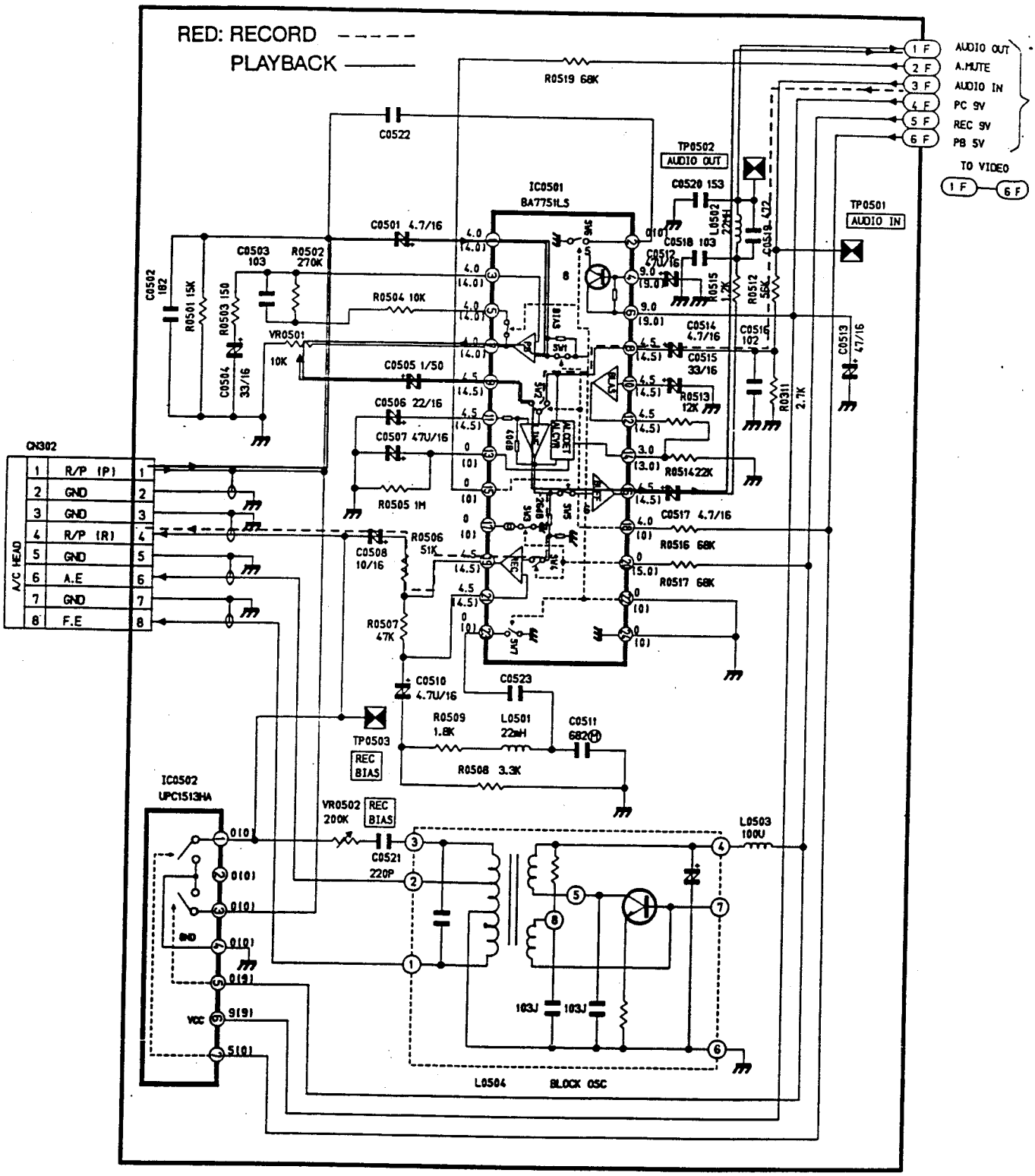
MODE / PIN NO.	IC 305						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	9	5	9	9	9	9	9
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	4.9	0	0	4.9	4.9
PIN 4	5.2	0	3.3	5.2	5.2	3.3	3.3
PIN 5	3.0	3.0	3.1	2	3	3.1	3.1
PIN 6	4.4	0	2.4	3.6	3	2.4	2.4
PIN 7	1.8	1.0	1.8	1.6	1.7	1.8	1.8
PIN 8	3.4	2.4	5.1	3.5	3.3	5.1	5.1

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

PIN NO.		STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
Q301	E	0	0	0.7	0	0	0.7	0.7
	B	0	0	1.4	0	0	1.4	1.4
	C	0	0.2	4.6	0	0	4.6	4.6
Q302	E	0	0	0	0	0	0	0
	B	2	2	1.3	2	2	1.3	1.3
	C	0	0	2	0	0	2	2
Q303	E	0	0	0	0	0	0	0
	B	0.8	0.8	0.9	0.8	0.8	0.9	0.9
	C	1.5	1.5	1.6	1.5	1.5	1.6	1.6
Q304	E	0	0	0	0	0	0	0
	B	0.7	0.7	0.7	0.7	0.7	0.9	0.9
	C	1.3	1.3	1.4	1.3	1.3	1.5	1.5
Q305	E	0.7	0.7	0.8	0.7	0.7	0.8	0.8
	B	2.0	2	2	2	2	2	2
	C	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Q306	E	0	3.1	0	0	0	0	0
	B	0	3.8	0	0	0	0	0
	C	0	9	2	0	0	2	2
Q307	E	0	0	0	0	0	0	0
	B	0	0	0	0	0	0	0
	C	0	0.4	0	0	0	0	0
Q308	E	3	3	3	3	3	3	3
	B	1	1	1	1	1	1	1
	C	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Q309	E	2.7	2.7	2.7	2.7	2.7	2.7	2.7
	B	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	C	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Q311	E	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	B	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	C	0	0	0	0	0	0	0
Q312	E	0	0	0	0	0	0	0
	C	2.2	1.2	1.2	2.2	2.2	1.2	1.2
	B	0	1.2	1.2	0	0	1.2	1.2


C3112 1/50
R0390 150
IC0307 TA7772
REC.FM
D0305
TP0310
CN305
DRUM
1 CH 2(-) 1
2 CH 1.2(+) 2
3 GND 3
4 CH 1 (-) 4
C3107 68P
C3106 103
C3109 82P
C3108 103
R0388 100
L3001 3.9uH
C3110 103
D0306
C3111 1/50
R0389 150
R0396 150
C3114 223
R0395 10K
R0394 1.5K
R0393 1.5K
R0392 150
C3113 223
R0391 1K
CN303
1 SW 25HZ 1
2 REC 8V 2
3 PB 5V 3
4 GND 4
5 REC FM 5
6 GND 6
7 PB FM 7
TO MAIN B (VIDEO1)
C3115 103
C3116 49/16
C3117 103
C3118 100/10
RED : PLAYBACK FM
RECORD FM

10-6. Audio



MODE
PIN NO.
PIN 1
PIN 2
PIN 3
PIN 4
PIN 5
PIN 6
PIN 7
PIN 8
PIN 9
PIN 10
PIN 11
PIN 12
PIN 13
PIN 14
PIN 15
PIN 16
PIN 17
PIN 18
PIN 19
PIN 20
PIN 21
PIN 22
PIN 23
PIN 24

AUDIO

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

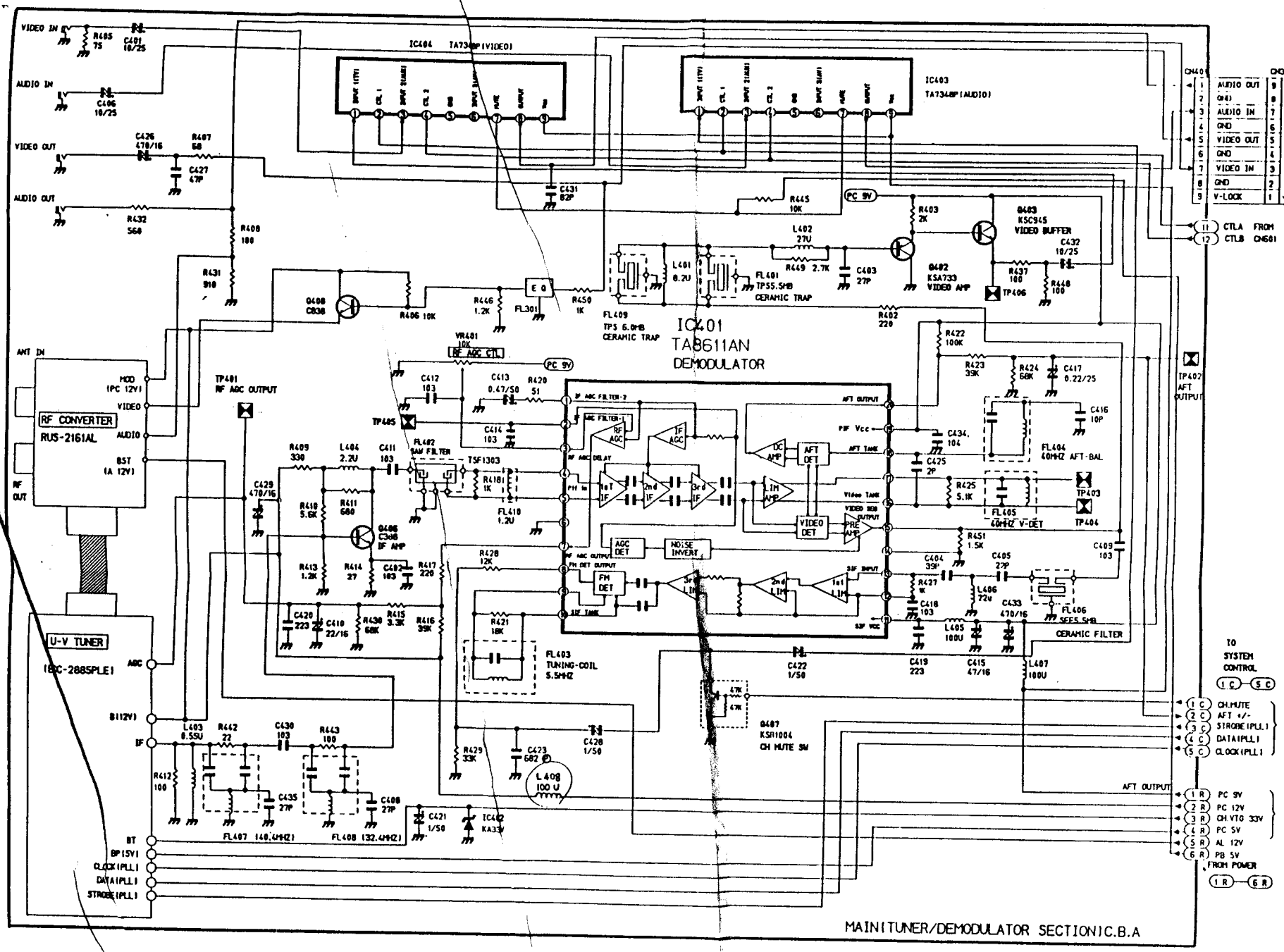
MODE / PIN NO.	IC 501						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	3.8	4.0	4.0	4.0	4.0	4.0	4.0
PIN 2	0	0	0	0	0	0	0
PIN 3	3.8	4.0	4.0	4.0	4.0	4.0	4.0
PIN 4	9.0	9.0	9.0	9.0	9.0	9.0	9.0
PIN 5	4.0	4.0	4.2	4.0	4.0	4.0	4.0
PIN 6	9.0	9.0	9.0	9.0	0	9.0	9.0
PIN 7	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PIN 8	4.6	4.7	4.6	4.6	4.6	4.7	4.6
PIN 9	4.6	4.4	4.3	4.3	4.6	4.4	4.3
PIN 10	4.6	4.7	4.5	4.7	4.6	4.7	4.6
PIN 11	4.6	4.4	4.3	4.7	4.6	4.4	4.4
PIN 12	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 13	0	0.7	0	0.6	0	0	0
PIN 14	3.0	3.0	3.0	3.0	3.0	3.0	3.0
PIN 15	4.1	4.2	4.0	4.0	4.2	4.2	4.2
PIN 16	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 17	0	0	0	0	0	0	0
PIN 18	0.4	0	4	0.2	0.4	4.2	4.3
PIN 19	4.6	4.6	4.6	4.7	4.6	4.7	4.7
PIN 20	0	5.0	0	0	0	0	0
PIN 21	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 22	0	0	0	0	0	0	0
PIN 23	0	0	0	0	0	0	0
PIN 24	0	0	0	0	0	0	0

REV S. : REVERSE SEARC
FWD S.: FORWARD SEA

MODE / PIN NO.	IC 502						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD
PIN 1	0	0	0	0	0	0	0
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	0	0	0	0	0
PIN 4	0	0	0	0	0	0	0
PIN 5	0	9	0	0	0	0	0
PIN 6	9	9	9	9	9	9	9
PIN 7	0	0	5	0	0	5	5

DIO OUT
MUTE
DIO IN
9V
C 9V
5V
D VIDEO
S F

10-8-2. Tuner (VB-710)



MODE	PIN NO.	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	PIN 13	PIN 14	PIN 15	PIN 16	PIN 17	PIN 18	PIN 19	PIN 20

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 401						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	5.8	5.8	5.8	5.8	5.8	5.8	5.8
PIN 2	5.8	5.8	5.8	5.8	5.8	5.8	5.8
PIN 3	3	3	3	3	3	3	3
PIN 4	4	4	4	4	4	4	4
PIN 5	4	4	4	4	4	4	4
PIN 6	0	0	0	0	0	0	0
PIN 7	4	4	4	4	4	4	4
PIN 8	4	4	4	4	4	4	4
PIN 9	6	6	6	6	6	6	6
PIN 10	6	6	6	6	6	6	6
PIN 11	9	9	9	9	9	9	9
PIN 12	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 13	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 14	0	0	0	0	0	0	0
PIN 15	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 16	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 17	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 18	4	4	4	4	4	4	4
PIN 19	9.0	9	9	9	9	9	9
PIN 20	5	5	5	5	5	5	5

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 403						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 2	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 7	0.2	0	4	0.2	0.2	4	4
PIN 8	5.4	5.4	5.4	5.4	5.4	5.4	5.4
PIN 9	9.0	9	9	9	9	9	9

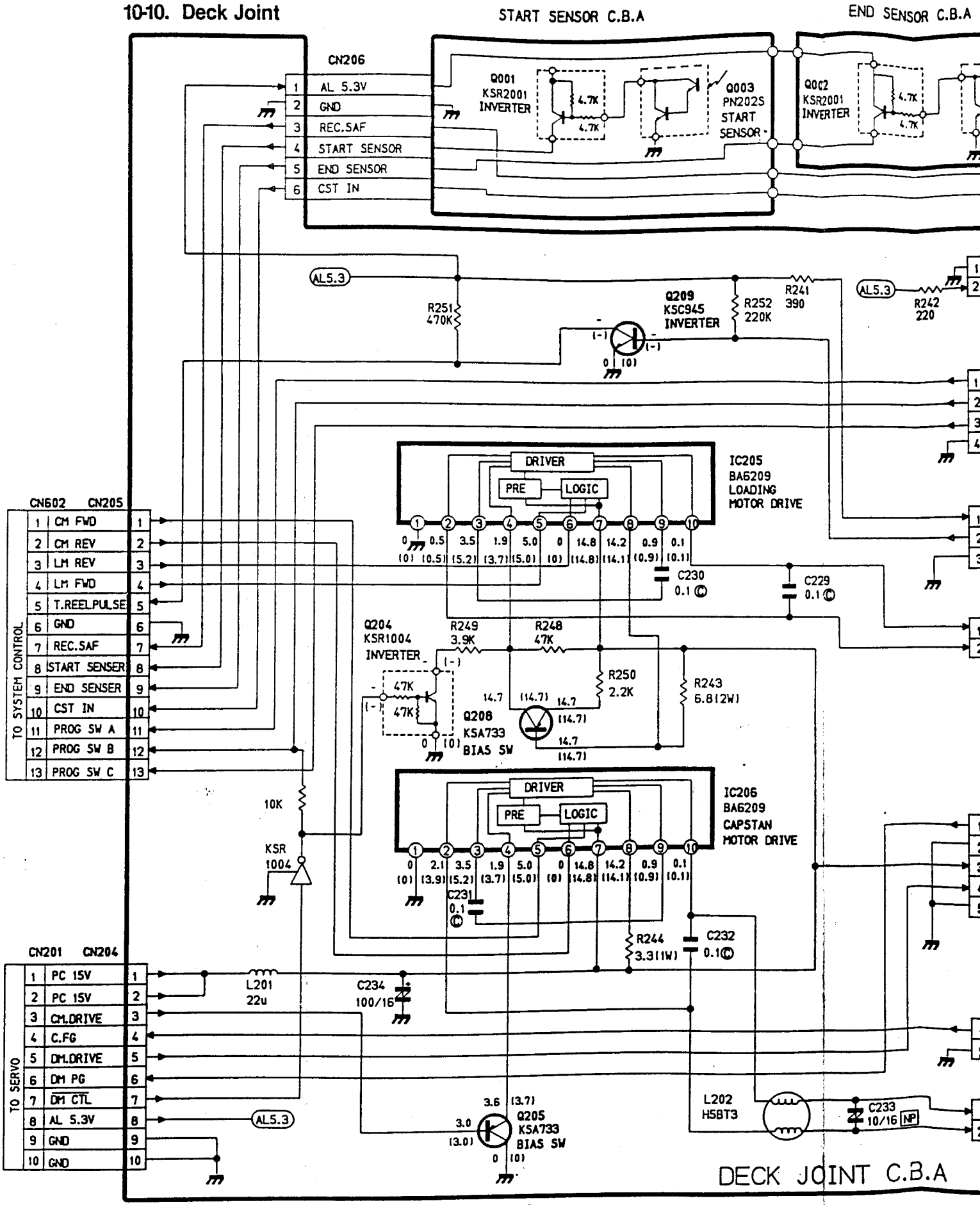
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

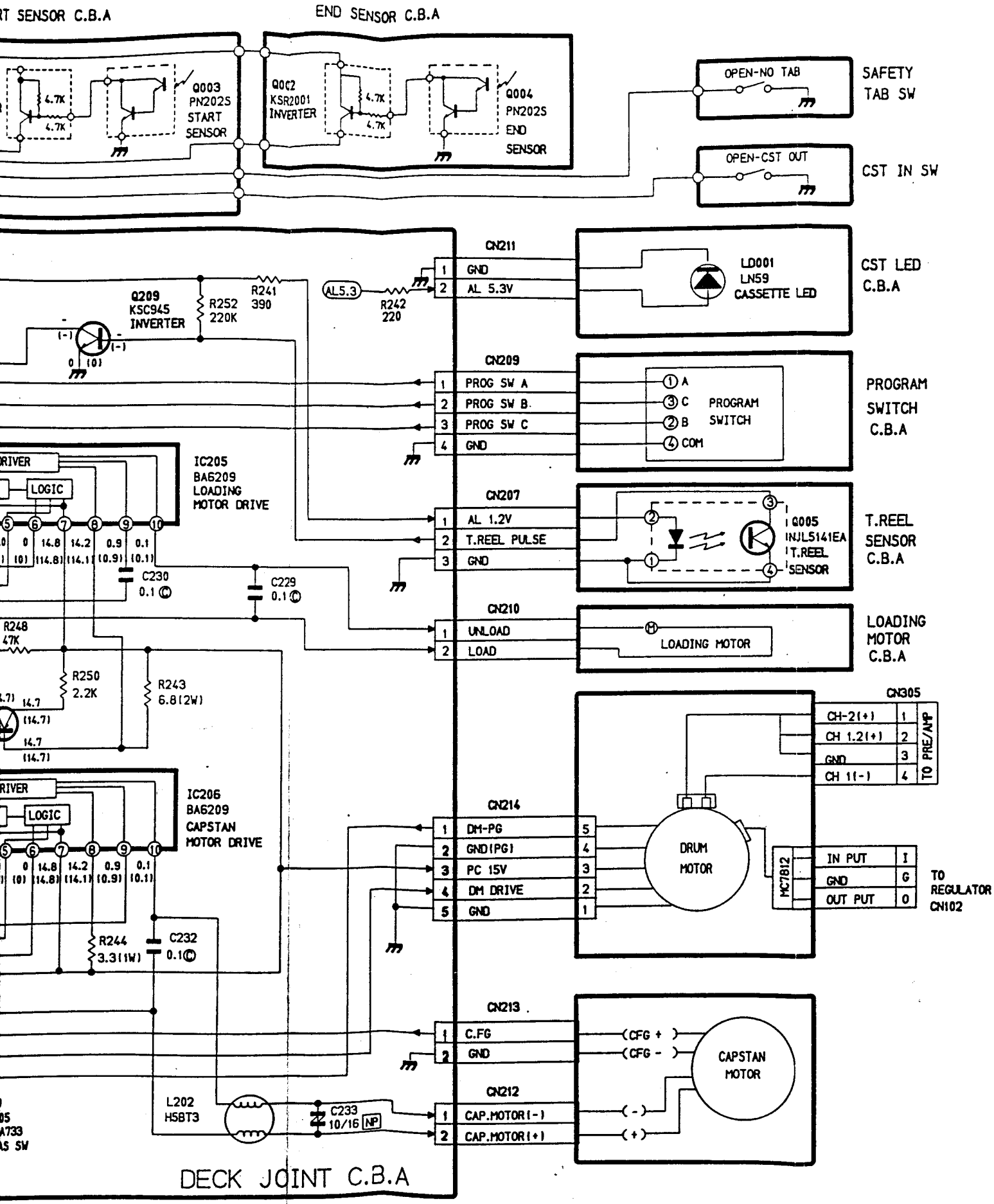
MODE / PIN NO.	IC 404						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 2	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 7	0.2	0	4	0.2	0.2	4	4
PIN 8	5.6	5.6	5.6	5.6	5.6	5.6	5.6
PIN 9	9.2	9.2	9.2	9.2	9.2	9.2	9.2

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
TR NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 402	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2
Q 403	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4
Q 404	10	0	10	10	0	10	10	10	9.2	10	0	10	10	0	10	10	10	9.2	10	10	9.2
Q 405	0	10	0.2	0	10	0.2	0	0	5	0	10	0.2	0	10	0.2	0	0	5	0	0	5
Q 406	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2
Q 407	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0
Q 408	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4

10-10. Deck Joint




RT SENSOR C.B.A
END SENSOR C.B.A
Q003 PN202S START SENSOR
Q002 KSR2001 INVERTER
Q004 PN202S END SENSOR
OPEN-NO TAB
SAFETY TAB SW
OPEN-CST OUT
CST IN SW
CN211
GND
AL 5.3V
LD001 LN59 CASSETTE LED
CST LED C.B.A
Q209 KSC945 INVERTER
R252 220K
R241 390
R242 220
AL5.3
CN209
PROG SW A
PROG SW B
PROG SW C
GND
PROGRAM SWITCH
PROGRAM SWITCH C.B.A
IC205 BA6209 LOADING MOTOR DRIVE
LOGIC
CN207
AL 1.2V
T.REEL PULSE
GND
Q005 INJL5141EA T.REEL SENSOR
T.REEL SENSOR C.B.A
C230 0.1
C229 0.1
CN210
UNLOAD
LOAD
LOADING MOTOR
LOADING MOTOR C.B.A
R248 47K
R250 2.2K
R243 6.8(2W)
CN305
CH-2(+)
CH 1.2(+)
GND
CH 1(-)
TO PRE/AMP
IC206 BA6209 CAPSTAN MOTOR DRIVE
CN214
DM-PG
GND(PG)
PC 15V
DM DRIVE
GND
DRUM MOTOR
MC7812
IN PUT
GND
OUT PUT
TO REGULATOR CN102
R244 3.3(1W)
C232 0.1
CN213
C.FG
GND
CFG +
CFG -
CAPSTAN MOTOR
L202 H58T3
C233 10/16 NP
CN212
CAP.MOTOR(-)
CAP.MOTOR(+)
DECK JOINT C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 205						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
PIN 3	0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 4	2.3	14.8	14.7	14.7	14.7	2.2	14.7
PIN 5	5.0	14.7	5.0	5.0	5.0	5.0	5.0
PIN 6	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 7	15.0	14.8	14.8	14.7	14.7	14.7	14.7
PIN 8	15.0	14.8	14.8	14.7	14.7	14.7	14.7
PIN 9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 10	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Sub Servo C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

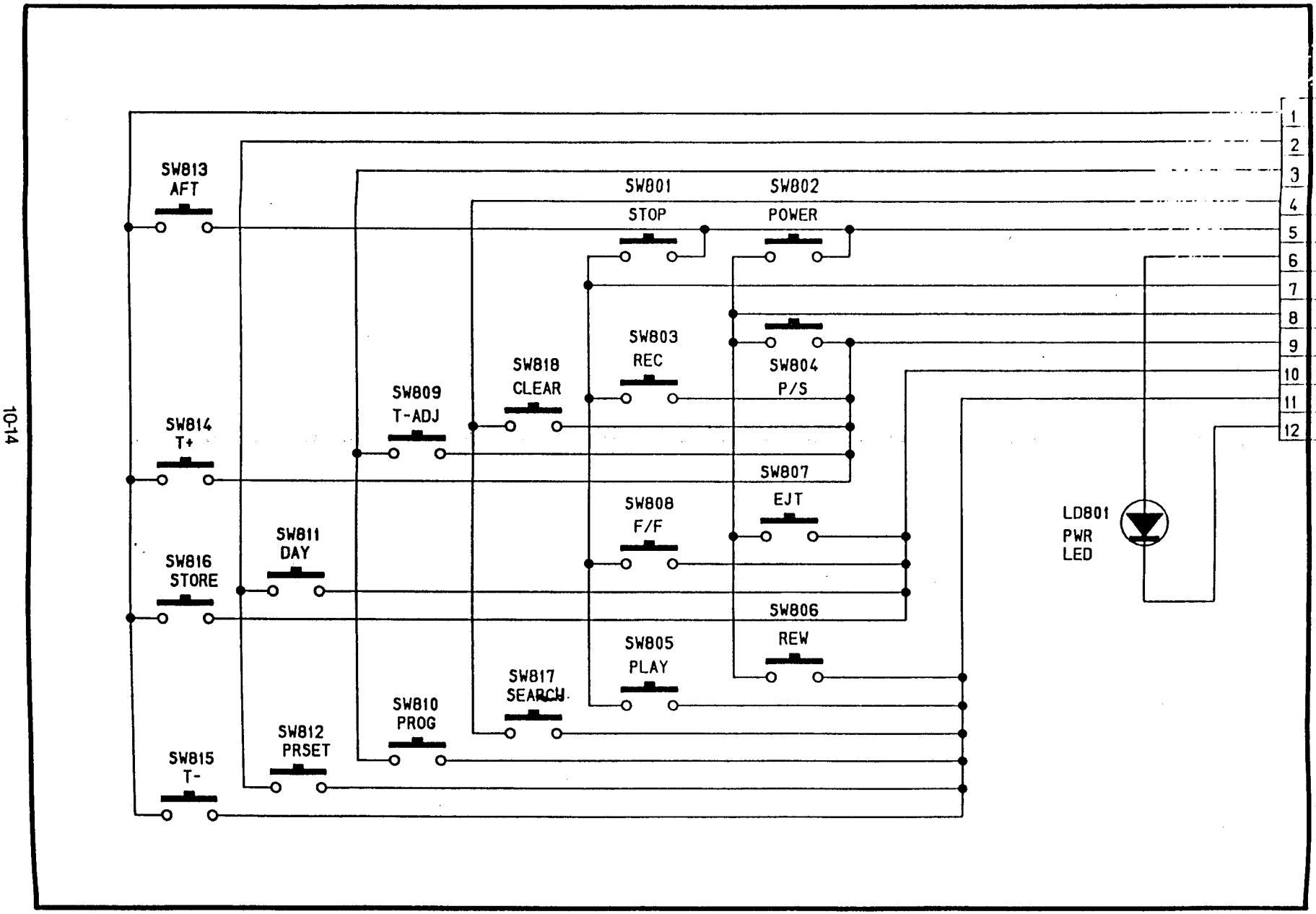
MODE / PIN NO.	IC 206						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	0.5	3.9	2.1	0.1	10.1	0.1	9.5
PIN 3	0.9	5.2	3.5	0.9	11.7	0.9	10.9
PIN 4	1.2	3.7	1.9	10.3	10.2	10.0	9.0
PIN 5	5.0	5.0	5.0	0	5.0	0	5.0
PIN 6	5.0	0	0	5.0	0	5.0	0
PIN 7	14.9	14.8	1.48	14.7	14.7	14.7	14.7
PIN 8	14.9	14.1	14.2	13.8	13.8	13.8	13.8
PIN 9	0.9	0.9	0.9	11.8	0.9	11.0	0.9
PIN 10	0.5	0.1	0.1	9.9	0.1	9.3	0.1

Sub Servo C.B.A

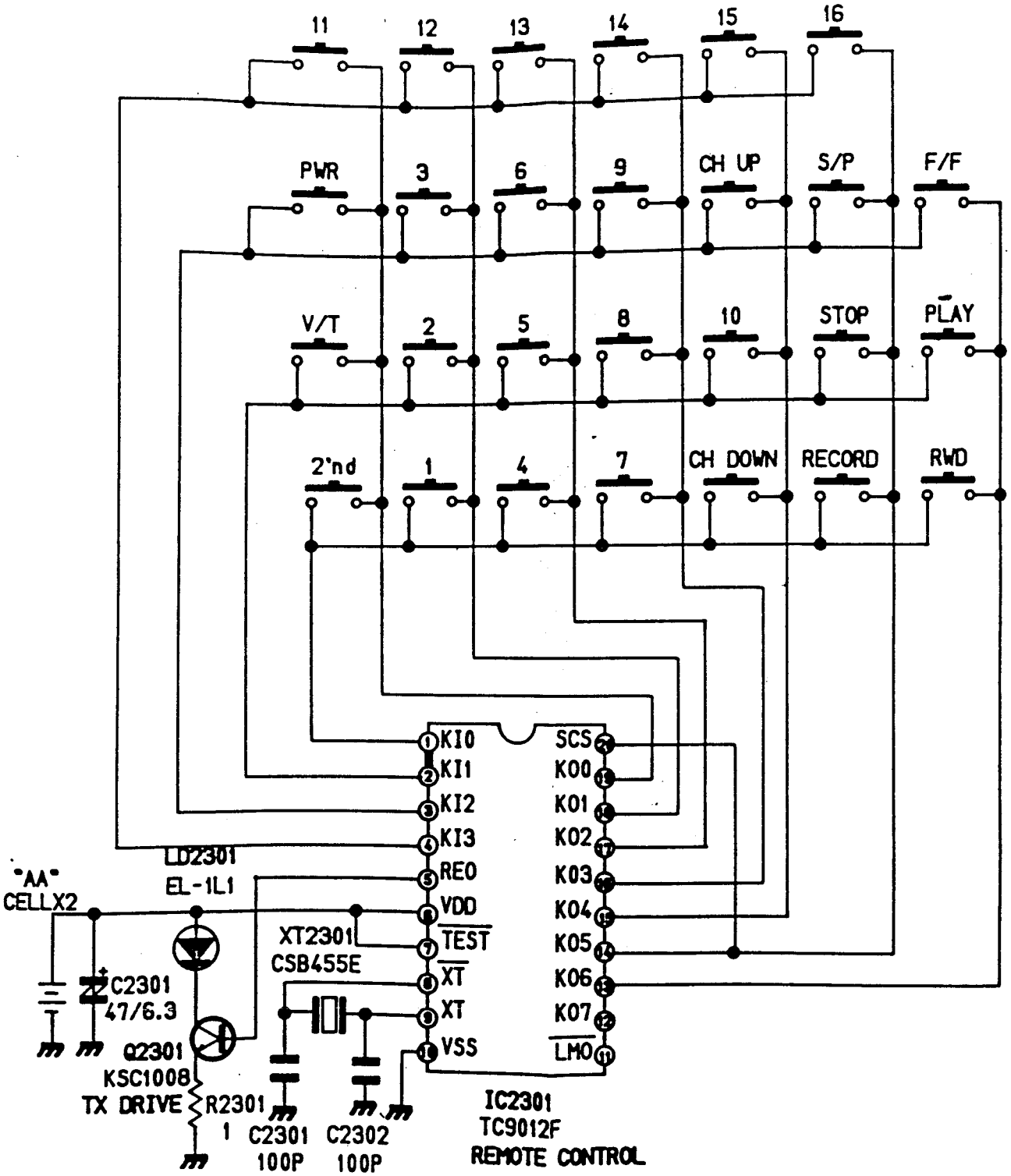
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F.FWD			REV S.			FWD S.		
Tr No.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 204	0	0	4.9	0	14.7	0	0	14.7	0	0	14.7	0	0	14.7	0	0	0	4.9	0	14.7	0
Q 205	1.0	0	12.6	3.7	0	3.0	3.6	0	3.0	8.9	0	8.3	8.8	0	8.2	9.5	0	8.7	9.3	0	8.6
Q 208	14.9	2.2	14.9	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	2.2	14.7	14.7	14.7	14.7
Q 209	0	5.1	0.1	0	—	—	0	—	—	0	—	—	0	—	—	0	—	—	0	—	—

Sub Servo C.B.A


SW813
AFT
SW814
T+
SW816
STORE
SW815
T-
SW811
DAY
SW812
PRSET
SW809
T-ADJ
SW810
PROG
SW818
CLEAR
SW817
SEARCH
SW801
STOP
SW803
REC
SW808
F/F
SW805
PLAY
SW802
POWER
SW804
P/S
SW807
EJT
SW806
REW
LD801
PWR
LED
CN800
TIMER
1 SEGMENT B 1
2 SEGMENT C 2
3 SEGMENT D 3
4 SEGMENT A 4
5 KEY 3 5
6 PWR LED 6
7 SEGMENT L 7
8 SEGMENT G 8
9 KEY 2 9
10 KEY 4 10
11 KEY 1 11
12 GND 12

10-12. Remote Control



SAMSUNG Electronics

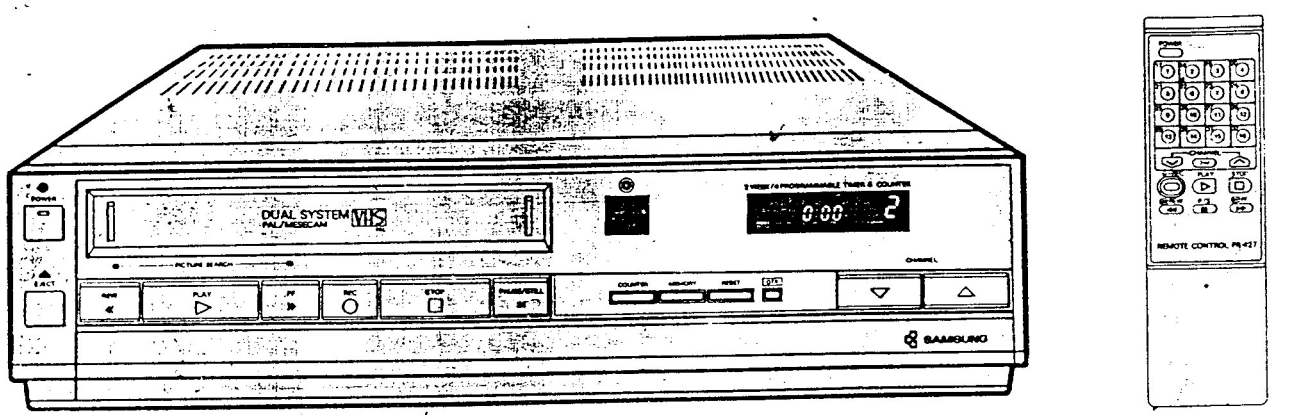
VHS PAL HQ

SERVICE MANUAL

VX-710

SVM-P7-025-1E

VIDEO CASSETTE RECORDER



SPECIFICATION

Format:	VHS PAL standard
Recording System:	Rotary, azimuth two-head helical scanning system
Television System:	PAL color and B/W signal
Tape Width:	12.65 mm (1/2 inch)
Tape Speed:	22.39 mm/sec
Record/Playback Time:	4 hours with E-240 Tape
FF/REW Time:	Less than: 6 min. with E-180
Heads:	1) Video 2 Rotary heads 2) Audio/Control: 1 stationary head (Mono) 3) Full track erase: 1 stationary head
Video	
Input:	0.5 to 2.0 Vp-p 75 ohm unbalanced
Output:	1.0 Vp-p 75 ohm unbalanced
Signal-to-Noise Ratio:	Better than 40dB.
Horizontal Resolution:	More than 240 Lines
Audio	
Input:	−8dBm, 50Kohm unbalanced
Output:	−3dBm 1Kohm unbalanced
Signal-to-Noise Ratio:	Better than 40dB
Frequency Response:	100Hz−8.0 KHz (−3dB)
Receiving channels:	VHF I, VHF III, UHF IV/V
RF Output:	CCIR UHF channel 32 to 40 (adjustable), Preset to 36
Power Requirement:	AC 110V/220V, 50Hz/60Hz AC 220V, 50Hz
Operating Temperature:	5 to 4 DEG. C (41°F−104°F)
Operating Humidity:	10%−75%
Power Consumption:	Approx. 28 Watts (When the POWER button is OFF Approx. 7.0 watts)
Dimensions:	420 (W)×93 (H)×345 (D) mm
Weight:	14.55 lbs (6.6 kg)

Printed in Korea

NOVEMBER 1987

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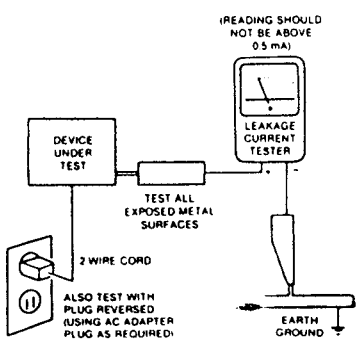
SAFETY PRECAUTIONS

1. **Before returning a Video Cassette Recorder to the customer, always make a safety check of the entire instrument, including, but not limited to the following items**

   a. **Be sure that no built-in protective devices are defective and/or have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reassembling the instrument, be sure to put back in place all protective devices, including, but not limited to nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks.**
   Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.

   b. **Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) excessively wide cabinet ventilation slots, and (2) improperly fitted and/or incorrectly secured cabinet covers.**

   c. **Antenna Cold Check**—With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, to each of the coaxial connectors. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.


(READING SHOULD NOT BE ABOVE 0.5 mA)
DEVICE UNDER TEST
LEAKAGE CURRENT TESTER
TEST ALL EXPOSED METAL SURFACES
2 WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

AC Leakage Test

   d. **Leakage Current Hot Check**—With the instrument completely reassembled plug the AC line cord directly into a 110/220V or 220V AC output. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) *C101. 1 Leakage Current for Appliances* and Underwriters Laboratories (UL) *1410. (50.7).* With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screwheads, metallic overlays, controls shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat test.

   ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR CONNECTING ANTENNA OR ACCESSORIES.

   e. **AC Leakage Test**

   Avoid shock hazards. The television instrument, accessory, or cable(s) to which this VCR is connected should have the applicable sections of the antenna cold check and the **leakage current** hot check performed. Do not connect this VCR to a TV antenna, cable or accessory that exhibits excessive leakage currents.

2. Read and comply with all caution and safety related notes on or inside the VCR cabinet and chassis.

3. **Design Alteration Warning**—Do *not* alter or add to the mechanical or electrical design of this Video Cassette Recorder. Design alterations and additions, including, but not limited to, circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this instrument and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the servicer responsible for personal injury or property damage resulting therefrom.

4. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts—be sure that leads and components do not touch thermally hot parts c. the AC supply, and d. antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring. Do not change spacing between components, and between components and the printed-circuit board. Check AC power cord for damage.

5. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

6. PRODUCT SAFETY NOTICE
   Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a (*) or (⚠) on schematics and parts list. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. Products Safety is under review continuously and new instructions are issued whenever appropriate.

Electrostatically Sensitive (ES) devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices.* Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

---

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with Es devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a *grounded-tip* soldering iron to solder or unsolder ES devices.

4. Use only an *anti-static* type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.

5. Do *not* use freon-propelled chemicals. These can generate electrical charges sufficient to damage Es devices.

6. Do *not* remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)

7. Immediately before removing the protective material from the leads of a replacement Es device, touch the protective material to the chassis or circuit assembly into which the device will be installed. **CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

1. GENERAL DESCRIPTION

1-1. GENERAL INFORMATION

•Operation Modes
Play, still, forward search, reverse search, record, record pause, fast forward and rewind operations are possible. 2-Video Head System uses two video heads on the upper cylinder. Two video heads (CH-1/CH-2: +60 μm/−80 μm) are used during record and playback

•Unattended (Timer) Recording
The programmable timer can be preset up to two weeks in advance to record up to 4 preselected programs. The Timer turns your VCR on and off and changes channels automatically.

•One Touch Recording (OTR)
Express Recording permits unattended recording with the touch of a button. You can record a program for the time from 1 minute to the desired amount without setting the Programmable Timer.

•Cable TV Tuner
Allows you to tune mid and super-band cable channels without the use of an external device. The tuning system makes cable television channel selection on most systems as easy and convenient as VHF and UHF tuning.

•Memory Stop
When the Multifunction Display is in the "Counter" Position, a tape that is being rewound automatically stops when the Tape Counter reads 9999.

•Automatic Power On
The VCR will automatically turn power on when you insert a cassette without pushing POWER button.

•Automatic Playback
When you insert the cassette with the Record Safety Tab removed, the VCR will turn power on and playback automatically without pushing POWER and PLAY button. If you use the cassette with Record Safety Tab intact, the VCR will turn power on automatically and be in STOP mode but do not playback.

•Automatic Rewind
The VCR automatically rewinds the tape when the end of the tape is reached. To avoid accidental erasure during Timer Recording or Express Recording, it stops at the end of the tape but does not rewind.

•Mode Indication In the Multifunction Display
The VCR modes will be indicated in the Multifunction Display with a sign or a character of white or red color so the operator can see the modes easily.

•Remote Control with Special Effects
Hand-Held unit offers play, stop, record, rewind, fast forward, pause/still, direct position selection (17 keys), channel up/down, power on/off, one touch search (forward or reverse).

•Cable-Ready Frequency Synthesis Tuner
You can select unscrambled Cable TV channels S1 to S20, without using an external converter.
The frequency-synthesis tuner can select a total of 83 channels including 20 cable channels.

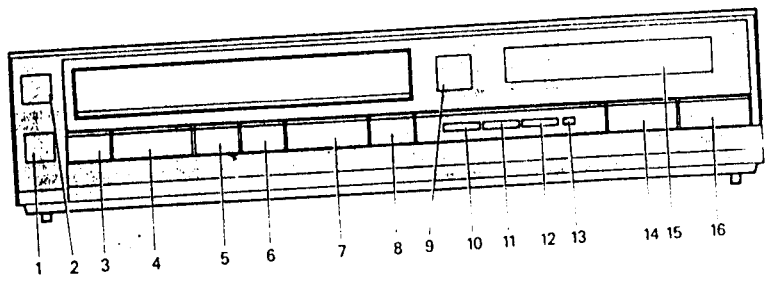


Fig. 1 Front View

1. **EJECT Button**
   Press from stop position to remove a cassette. And the "Tape-in" indicator ([⊡]) in the Multifunction Display will disappear.

2. **POWER Button**
   Press this button to turn the VCR power on and off. Red LED on this button lights when power is on.

3. **REW (Rewind/Reverse Picture Search) Button**
   Press from stop position to rewind the tape after either recording or playback.
   Press from play mode to visibly reverse scan program material. When the picture reaches the point you are looking for, press the PLAY button to resume normal playback.

4. **PLAY Button**
   Press to play pre-recorded material. " ▷ " sign will appear in the Multifunction Display.

5. **FF (Fast Forward/Forward Picture Search) Button**
   Press from stop position for fast access to desired program material. Press from play mode to visibly forward scan program material. When the picture reaches the point you are looking for, press the PLAY button to resume normal playback.

6. **REC (Record) Button**
   Press the Record button to start recording. " REC " is indicated in the Multifunction Display with red color.

7. **STOP Button**
   Press to stop the tape during playback, record, rewind, fast forward and pause/still.

8. **P/S (Pause/Still) Button**
   Pre[illegible] utton to stop the tape momentarily during eith[illegible]ding or playback. " ▮▮ " is indicated in the Multifunction Display. This is useful to prevent recording of unwanted material or to freeze the picture on TV screen. And of course, it is useful to stop the tape during an interruption such as a phone call.

9. **REMOTE SENSOR**
   This point receives signals from Remote Hand Unit.

10. **COUNTER Button**
    The tape counter or the clock can be selected and viewed by each push of this button.

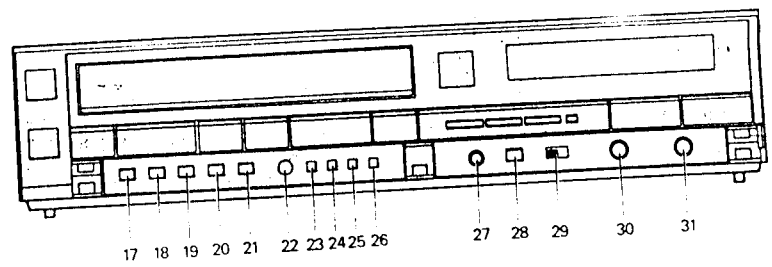


Fig. 2 Secondary Control Door opened

11. **MEMORY Button**
    Use this button to easily find the beginning of a particular segment you want to repeat. Press before rewinding, then the cassette will rewind to a counter reading of 9999 instead of the start point of the tape. Pressing Rewind button again will cause the VCR to rewind to the start point of the tape. Since you can reset the counter to 0000 at any point, the feature provides a convenient means of relocating the beginning of a recording or the beginning of a particular segment you want to repeat.

12. **RESET Button**
    Press to reset the counter to 0000, or to clear the Timer setting Program. It is used to reset the Counter in the counter position and to clear the program in the Timer Program position.

13. **OTR (ONE TOUCH RECORDING) Button**
    It enables you to do impromptu recording at any time. Just select the channel and press the OTR button to desired amount of recording time with automatic power off at the end of segment. (30 minutes increased by each push)

14. **CHANNEL DOWN (V) Buttons**
    Press to select the channel you wish to record or view on TV. Continuous holding of button's will change the channels by 1's.

15. **Multifunction Display**
    This Display is used as an indicator for: timer programming (program number; 1–4, start time; ON, end time; OFF, 2nd week; NEXT), present time of day, tape counter, timer recording (TIMER: red), memory stop (MEM), tape-in ([⊡]), channel, Operating Mode (record; REC: red, play, ▷, pause/still; ▮▮, tape movement (6dots); □□□□□□).

16. **CHANNEL UP (Λ) Button**

17. **T-ADJ (Time Adjust) Button**
    Use to set the clock.

18. **T-PGM/CHECK Button**
    Press to check timer program or to set timer program.

19. **DAY Button**
    Use to set the day for the present time or timer program.

20. **Time+**
    Use to set the clock upward and to set the timer for unattended recording.
    This button enables you to tune manually after you select set mode to push the SET button.

21. **Time−**
    Use to set the clock downward and to set the timer for unattended recording.
    This button enables you to tune manually after you select set mode to push the SET button.

22. **AFT BUTTON**
    Push this button for the fine picture.

23. **SET Button**
    Press this button for setting channel.

24. **AUTO Button**
    Press this button to store whole channels which are on the air.

25. **ADD Button**
    Press this button to store the channel.

26. **DEL Button**
    Press this button to delete the stored channel.

27. **V-LOCK CONTROL**
    In still mode, Adjust this volume to minimize vertical shaking on the TV screen.

28. **TIMER BUTTON**
    Press after programming for unattended recording.

29. **TV/AUX SELECT SWITCH**
    Select recording signal from the tuner or external source.

30. **TRACKING Control**
    When playing prerecorded tapes or tapes on the other unit, "noise" or black and white streaks may appear on your TV screen. If this occurs, rotate the Tracking Control on either direction until you see a clear picture. Keep this knob in the center position at all times (Unless an adjustment is required).

31. **PICTURE Control**
    Use this control to soften or sharpen the VIDEO picture on the TV screen. Rotate this control until you find a desired image. This control should normally be left in center position.

REAR VIEW

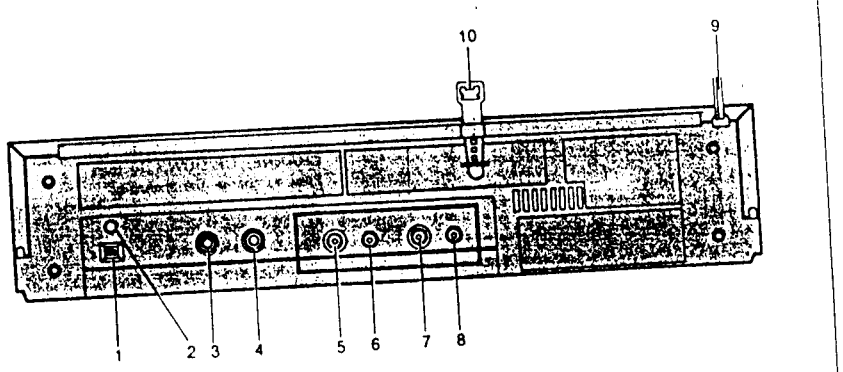


Fig. 3 REAR VIEW

1. **TEST ON/OFF SWITCH**
   Turn this switch ON and check that the video channel of your TV set is correct. After setting, set this switch to OFF.

2. **RF CHANNEL PRE-SET**
   In some areas the pre-set RF output of your video cassette recorder may clash with a TV broadcast. If this occurs rotate this control using a small screw-driver in a clockwise or anti-clockwise direction. A new video channel has now been set and you will need to retune your television video channel to the new RF output.

3. **ANTENNA IN**
   Connect external antenna.

4. **RF OUT**
   Connect to TV antenna (aerial) input.

5. **VIDEO OUT CONNECTOR**
   To connect to TV monitor or another VCR (not for conventional TV)

6. **AUDIO OUT CONNECTOR**
   To connect sound equipment, another VCR, or TV monitor (not for conventional TV)

7. **VIDEO IN CONNECTOR**
   Input jack for another VCR, portable video camera, or other video equipment.

8. **AUDIO IN CONNECTOR**
   For connecting on audio cable from a component AUDIO system or an output signal of another VCR.

9. **MAIN LEAD**

10. **WIRE CLAMPER**
    Use to tie a power cord when the VCR is moved.

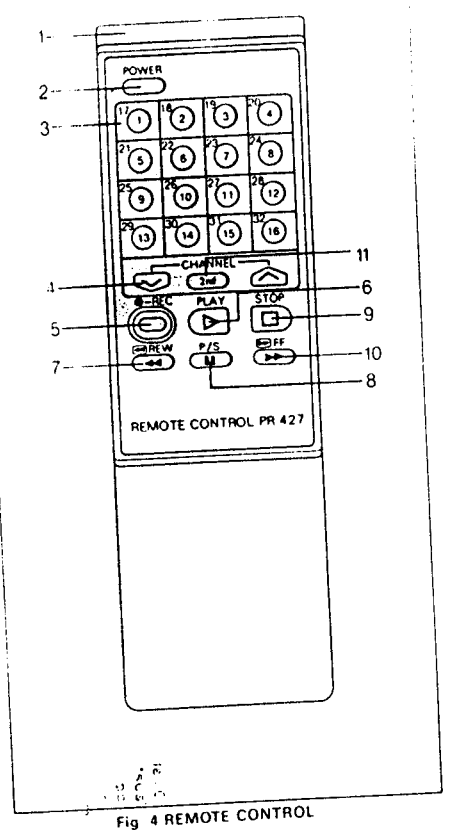


Fig 4 REMOTE CONTROL

REMOTE CONTROLLER

1. **Signal Transmission Window**
   Transmits signals from the remote control to the VCR

2. **POWER Button**
   Press to turn VCR power on and off

3. **Direct Position Select Button**
   Press the position number where a cassette's channel is memorized.

4. **CHANNEL UP/DOWN Buttons**
   Press to change the channels

5. **REC (Record) Button**
   Press to start recording

6. **PLAY Button**
   Press to play prerecorded material

7. **REW (Rewind/Reverse Picture Search) Button**
   Press to rewind the tape rapidly after either recording or playing. Also to make reverse scan program material in the PLAY mode

8. **P/S (PAUSE/STILL) Button**
   Press to stop the picture on screen during playback or for momentary pause during recording

9. **STOP Button**
   Press to stop recording or playing, etc

10. **FF (Fast Forward/Forward Picture Search) Button**
    Press to move the tape forward rapidly. Press to make forward scan the program material in the PLAY mode

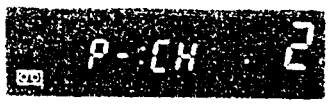
11. **Second Channel Button.**
    Press to select position number 17 to 32.

TUNING TV PROGRAMMES

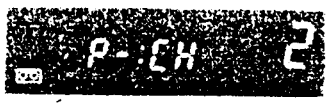
The video recorder feature a built in TV receiver section with channel frequency synthesizer, including closed circuit (cable TV) channel.

Open the front flap
Switch on the TV set and select the programme number which is equipped for playback from a video recorder.

1. Switch on the video recorder with POWER button.
2. Push SET button, then "P-CH" will display in the display window.



3. Select the desired TV station with the CH UP (△) or CH DOWN (▽) button.
4. Push ADD button, then channel number will flash one time.



5. Step 3, 4 are repeated for the storage of further TV stations.
6. If undesired TV stations are storaged, you can delete that station by using DEL button.
7. If you want to store the whole stations on air, push the AUTO button. The channel number will move from 1 to 99.
8. After all channels have been stored, you have to push the SET button in front flap.
9. Push AFT button for automatic fine tuning.

Setting of TV station is now complete.

Selecting TV Programmes by remote control

Press any of the button 1-16 to tune the TV channels you have programmed behind these numbers.
If the number you want is higher than 16, first press button 2nd and then press the button 17-32.

Note: When you press programme number that TV station is not stored the programme number is not appear in the display.

HOW TO SET THE CLOCK FOR PRESENT TIME OF DAY

The built-in Clock gives the time of day in a 24 hour cycle. The multifunction display is also used for the Tape Counter, or setting the Timer to record programs when you are not at home. When the electrical cord is first plugged into a wall outlet, or when there is a power failure, "SU – : –" appears on the display. The clock will work when the VCR's Power button is on. To set the clock, open the front door and follow these steps.

EXAMPLE: PRESENT TIME OF DAY IS MONDAY, 10:15

1. When the VCR power on, the display will show as in the Fig. 4.

Fig. 4

2. Press the T-ADJ button. "Su 0:00" will appear on the display and flash. (Fig. 5)

Fig. 5

3. Press the DAY button until you see "Mo" on display. Release. (Fig. 6)

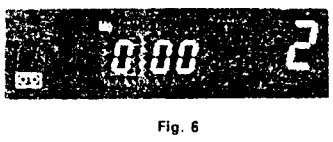


Fig. 6

4. Press the "TIME+" button or "TIME–" button until you see "Mo 10:15" on display. Release. (Fig. 7)

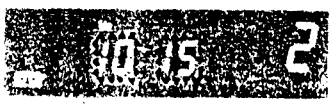


Fig. 7

5. Press the T-ADJ button to finish time setting. (Fig. 8)

Fig. 8

UNATTENDED (TIMER) RECORDING-WHILE YOU ARE AWAY

Automatic Timer recording makes it convenient for you to record a program while you are away, asleep or busy. The Timer can be preset two weeks in advance to record four of your favorite TV programs. You can also set the Timer to automatically record a program everyday for a week or two weeks at the same time over the full length of a cassette tape. If the tape runs out, the cassette will be ejected automatically. For unattended recording the Timer needs to know what day to make the recording, the time to start, the time to stop and the channel to be recorded.

To Prepare for Unattended Recording:

1. Turn on your VCR and TV set.
2. Make sure that the Clock shows the Present time of day.
3. Select TV input with INPUT Select Switch.
4. Insert video cassette with a safety tab intact.

You are now ready to set the timer program.

Unattended Recording One Time Only:

EXAMPLE: The present time of day is Monday, 11:30 and you want to set the Timer to record a TV program this Wednesday, to start at 8:30 and to stop at 10:00 on Channel 8.

1 ⇨ 2 ⇨ 3 ⇨ 4

Fig. 10

3. Press DAY button to "We". If a day in the second week is selected, "NEXT" will appear.

Fig. 11

4. Press "TIME+", or "TIME–" button to "8:30".

Fig. 12

5. Press CH UP/DOWN buttons for the channel you wish to record. That channel number will be shown in the multi function display.

Fig. 13

To set the STOP time:

6. Press T-PGM/CHECK button to set "OFF" time.

Fig. 14

To set the START time:

1. Press the T-PGM/CHECK button to set "ON" time.

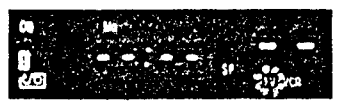


Fig. 9

2. Press PROG/CHECK button. Program number (1-4) can be selected by each push of this button.

7. Press "TIME+" or "TIME–" button to "10:00".

Fig. 15

8. Press T-PGM/CHECK button to finish program setting.

Fig. 16

NOTE: If OFF time is set before ON time, the DAY of ON time automatically changes to the previous day.

9. Press TIMER button ON for Timer recording. All indicators light will be off. (Except TIMER, program number and present time will light.)

Fig. 17

Unattended Recording Daily:
If you wish to record a daily program (from 8:30 to 10:00, everyday), Press DAY button until all the Day-indicators (Su, Mo, Tu, We, Th, Fr, Sa) light. Then follow steps 4 through 9. VCR will record everyday at the same set-time for the set length of time until cassette is finished.

Fig. 18

Note on Unattended Recording

Set up TIMER information in the order that best suits your needs. If you wish to stop the Timer recording without cancelling the Timer setting, Press POWER button ON. To continue the Timer recording again, press TIMER button ON. you do not need to press the REC button for Timer recording. Before pressing the TIMER button ON, you should check the cassette to prevent the unwanted recording. If the Timer recording is set and power is OFF, VCR will be in stand-by mode to record until the start time and record for the reserved time. Be sure that the safety tab is intact on the cassette. If the tab is missing, the tape will be automatically ejected when the TIMER button is pressed for Timer recording. The TV does not have to be turned on when Timer recordings are taking place.

To Check Programming:

1. Be sure that POWER button is on.
2. Press T-PGM/CHECK button, then the recording Start time of first (1) program is shown on display.
3. Press T-PGM/CHECK button again, then the recording End time of first (1) program is shown on display.
4. Press T-PGM/CHECK button again, then the recording Start time of second (2) program is shown on display. And follow the same steps to check other programs.

NOTE: You can review the next program immediately by pressing the T-PGM/CHECK button.

It is possible to check the Timer programming when a recording is taking place.

To Clear the Program:

1. Press POWER button ON.
2. Press T-PGM/CHECK button. When the recording time is shown on display, press the RESET button to cancel the program.

Program Memory Back-Up:

Operates when there has been a power failure of up to approximately 20 seconds.
If power has been off for more than 20 seconds, it will be necessary to set the time of day and to input all new programming.

One Touch Recording (OTR) Procedure

The One Touch Recording (OTR) button allow you to start a impromptu recordings at any time. Just select the channel and press the OTR buttoh to desired amount of recording time with automatic power off at the preselected time.
(minutes increased by each push)

To use One Touch record, first set up your VCR unit for basic recording:

1. Turn on TV and select a desirous channel.
2. Select TV input with INPUT SELECT SWITCH.
3. Insert a cassette tape with record safety tab intact, then turn POWER on automatically.

And, press "OTR" button to start recording and to select the recording length.
Then the VCR will start to record immediately and turn off at the preselected time. The "TIMER" and "REC" indicator will appear on the multifunction display at the same time when you press the OTR button.
The OTR set time will change by pressing OTR button only as shown in the diagram below.

Number of presses of OTR button	The End of OTR time on display
1	Present time + 30 min.
2	Present time + 60 min.
3	Present time + 90 min.
4	Present time + 120 min.
K	Present time + 30 · K min. (until maximum tape length)

After the OTR time is set, the display shows the recording end time for 5 seconds. And the display will return to the present time and show the present time during the One Touch Recording.

To check the OTR time:
While operating OTR, if you want to check the time remaining, press "TIME+" or "TIME–" button. Then the End time of OTR will appear on display for 5 seconds only. And after that, the display will return to the present time. In this case, be careful that the end time shows not the original end time, but the time increased or decreased about 1 minute.

To change the OTR time:
The recording length can be changed during OTR by pressing "OTR", "TIME", or "TIME–" button. The "OTR" button can increase the length by 30 minutes, and "TIME+" or "TIME–" button can increase or decrease the length by 1 minute.

To cancel the One Touch Recording:
If you wish to cancel the One Touch Recording, press the POWER button to OFF.
Then the "TIMER" and "REC" indicator will disappear on the multifunction display.

Note on One Touch Recording:
If the present time of day is not preset, OTR function does not operate.
If you use the cassette with the record safety tab removed, OTR will not operate because the VCR will eject the cassette when you press the OTR button.

The Timer Recording cannot begin recording if the VCR is already recording with OTR, and vice versa. But after the OTR, it will then start Timer Recording immediately if the end time of OTR is set before the one of Timer recording.
At the end of recording, the VCR will automatically turn off and the present time of day will be displayed.
Remember the maximum recording time without changing a cassette varies with the type of cassette tape you use.

1-3. CLEANING AND LUBRICATION

CLEANING TAPE MECHANISM

Periodic cleaning is necessary to insure continued excellent performance of the tape mechanism. To clean the following parts use "Kim Wipes" and solvent.

1. Capstan shaft
2. All idler wheels.
3. All tape guide posts.
4. Supply and take-up reels.
5. Impedance roller.
6. Pinch roller.
7. Idler belt.
8. Capstan belt.
9. Capstan motor pulley.
10. Loading belt.
11. Loading motor pulley.
12. Loading pulley.

To clean video heads, full erase head, and audio/control (A/C) head use only head cleaning kit and solvent.

Note: When cleaning video heads move the cleaning stick in the direction of head rotation. Wiping in a vertical motion may damage the heads.

LUBRICATION TAPE MECHANISM

The tape transport mechanism is properly lubricated at the factory. In normal use cycles, and with average environmental conditions, additional lubrication should not be required during the first year of operation.

Depending on use and environmental conditions, periodic lubrication may be required. When relubricating, remove old lubricant first, then sparingly apply new lubricant. (Excessive lubricant may be transferred to other assemblies causing multifunction).

Use grease on the following parts after 1,000 hours operation. (See exploded view for location.)

1. Between base pole (L) assembly and mecha chassis assembly.
2. Between level review cam and mecha chassis assembly.
3. Between base pole (R) assembly and mecha chassis assembly.
4. Between plate main slide and mecha chassis assembly.
5. Between I.B slide assembly and plate main slide.
6. Between gear loading (L) and gear loading (R).
7. Between main gear, eject gear and worm.
8. A part of flywheel shaft contacted to the Braket Capstan Flywheel.

Oil may be required for the following parts every 1,000 hours operation. (See exploded view for location.)

1. Supply reel and take up reel shafts.
2. Links of both loading arms.
3. Between shaft of tension arm and chassis.
4. Pressure roller arm.
5. Shaft of load pulley.

Other parts which are not listed above do not require lubrication, except if a part is replaced. Use appropriate oil or grease as indicated on exploded view.

1-4. ABBREVIATIONS

	2X	Double
	4.43 MHz	Color Sub Carrier
A	ACC	Automatic Color Carrier
	ACK	Automatic Color Killer
	ADD	Adder
	AFC	Automatic Frequency Control
	AFT	Automatic Fine Tuning
	AGC	Automatic Gain Control
	AL	Always
	ALC	Automatic Level Control
	AMP	Amplifier
	APC	Automatic Phase Control
	AUD	Audio
	AUX	Auxillary
B	BATT	Battery
	BE	Burst Emphasis
	BD	Burst De-Emphasis
	BG	Burst Gate
	BH	Power Supply for Selecting VHF High Band
	BL	Power Supply for Selecting VHF Low Band
	BM	Power Supply for Selecting VHF Mid Band
	BPF	Band Pass Filter
C	C. FG	Capstan Frequency Generator
	C. FREE RUN	Capstan Free Run
	C. MEMORY	Counter Memory
	C. SYNC	Composite Sync
	C. RESET	Counter Reset
	C. REVERSE	Counter Reverse
	C/R	Condenser/Resister
	CAFC	Capstan Auto Frequency Control
	CAPC	Capstan Auto Phase Control
	CATV	Cable TV
	CAR	Carrier
	CB	Carrier Balance
	CAP	Capstan
	CCD	Charge Coupled Devices
	CH	Channel
	CHAR.	Character
	CHROMA	Chrominance
	CM	Capstan Motor
	CNT	Counter
	COM	Common
	COMP.	Comparator
	COMPE	Compensator
	CON	Control
	CONV	Converter
	CST	Cassette
	C-EMP	Current Emphasis
	C-ERR	Capstan Error
D	D.FG	Drum Frequency Generator
	D.M.M	Delayed Monostable Multimbrator
	D.O	Drop Out
	D.O.C	Drop Out Compensator
	D.PG	Drum Pulse Generator
	D/A	Digital-to-Analog
	D/C	Dark/Clip
	D/W	Dark/White
	DAFC	Drum Auto Frequency Control
	DAPC	Drum Auto Phase Control
	DE-EMPH	De-Emphasis
	DEM	Demodulator
	DET	Detector
	DEV	Deviation
	DL	Delay Line
	DLIM	Double Limiter
	DLYD	Delayed
	DM	Drum Motor
	DN	Down
E	E-E	Electronic-to-Electronic
	EMPH	Emphasis
	ENV.	Envelope
	EQ	Equalizer
	EXT	External
F	F-V	Frequency-to-Voltage Converter
	F.FWD	Fast Forward
	FB	Feed Back
	FH	Horizontal Frequency
	FG	Frequency Generator
	FM	Frequency Modulator
	FSC	Sub Carrier Frequency
	FWD	Forward
G	GEN	Generator
	GND	Ground
H	HPF	High Pass Filter
	HSS	Horizontal Sync Separator
I	I/O	Input/Output
	IF	Intermediate Frequency
	INJ	Injector
	IR	Infrared
L	L/C	Luminance/Chrominance
	LED	Light Emitting Diode
	LIM	Limitter
	LPF	Low Pass Filter
	LS	Latch Strobe
	LUMA	Luminance
M	M.C	Main Converter
	MIX	Mixer
	MM	Monostable Multivibrator
	MFT	Manual Fine Tunning
	MOD	Modulator
N	NR	Noise Reduction
	N.C	No Change
	NORM	Normal
O	OSC	Oscillator
	OTR	One Touch Recording
P	PB	Play Back
	PC	Power Control
	PG	Pulse Generator
	PIF	Picture Intermediate Frequency
	PL	Preloading
	PLL	Phase Lock Loop
	PLS	Pulse
	PRG	Program
	PS	Phase Shift
	PWM	Pulse Width Modulation
	PWR	Power
	P/R	Playback/Record
	P/S	Pause/Still
R	REC	Record
	REC. SAF	Record Safety
	RECT	Rectifier
	REF	Reference
	REG	Regulator
	REV	Reverse
	REW	Rewind
	RF	Radio Frequency
S	S/H	Sample and Hold
	SC	Sub Converter
	SIF	Sound Intermediate Frequency
	SEP	Separator
	SP	Standard Play
	SRCH	Search
	SRV	Servo
	SW 25Hz	Head Switching Pulse
	SYNC	Synchronizing Signal
	SYSCON	System Control
T	T. REEL	Take up Reel Sensor
	T. RESET	Timer Reset
	TP	Test Point
	TRK	Tracking
U	U/D	Up/Down
	UL	Unloading
	UPS	Unloading Play Still
V	V-REF	Voltage Reference
	V-SYNC	Vertical Sync
	VCO	Voltage Controled Oscillator
	VCR	Video Cassette Recorder
	VIF	Video Intermediate Frequency
	VSS	Vertical Sync Separator
	VHS	Video Home System
	VP	
	VCO	Voltage Controlled Crystal Oscillator
W	W/C	White/Clip
	W/D	White/Dark
X	XPR	Express Recording
	μP	Microprocessor

2. DISASSEMBLY

2-1. INSTRUMENT DISASSEMBLY

2-1-1. Top Cabinet Removal (Fig. 1)

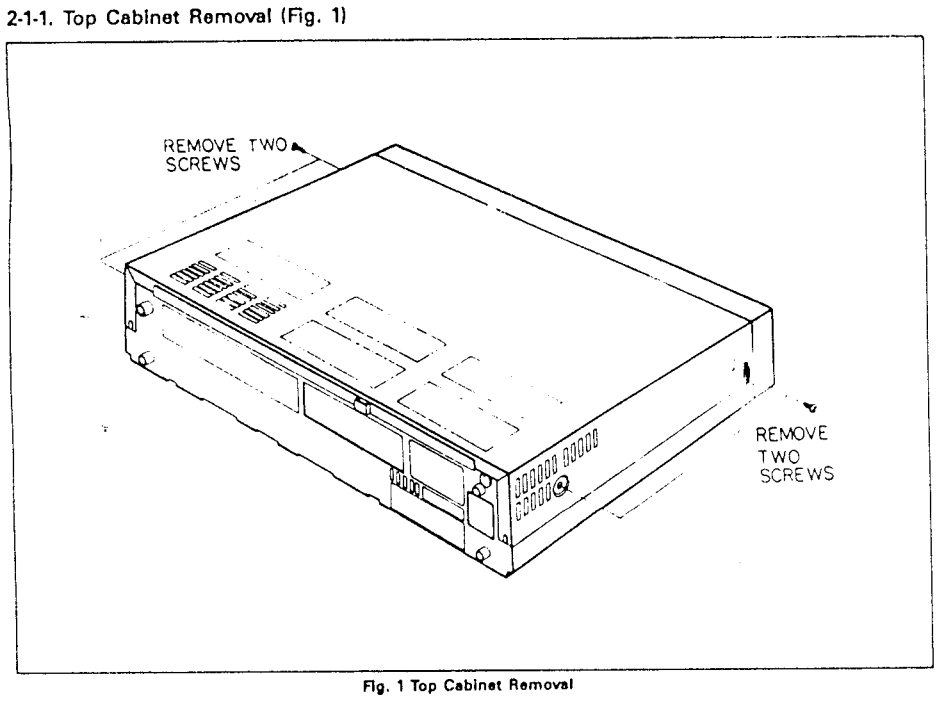


Fig. 1 Top Cabinet Removal

1. Remove four (4) screws located at the sides of the top cabinet.
2. Carefully lift the back of the top cabinet and slide it to the rear to remove.

2-1-3. Front Panel Removal (Fig. 3)

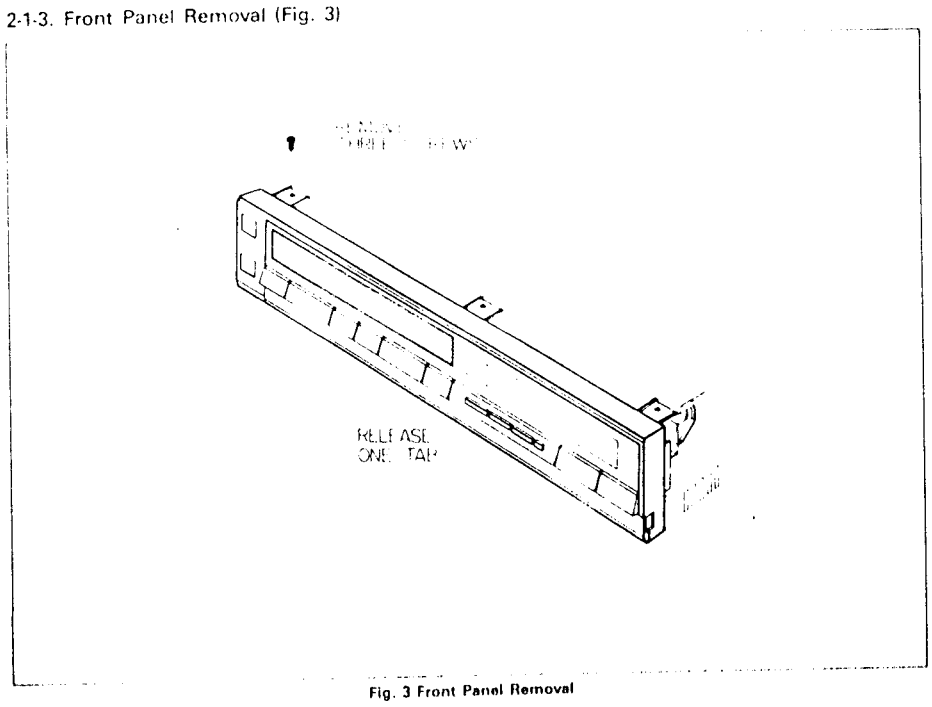


Fig. 3 Front Panel Removal

1. Remove the top cabinet and the bottom cover. (See Figs. 1, 2)

2-1-2. Bottom Cover Removal (Fig. 2)

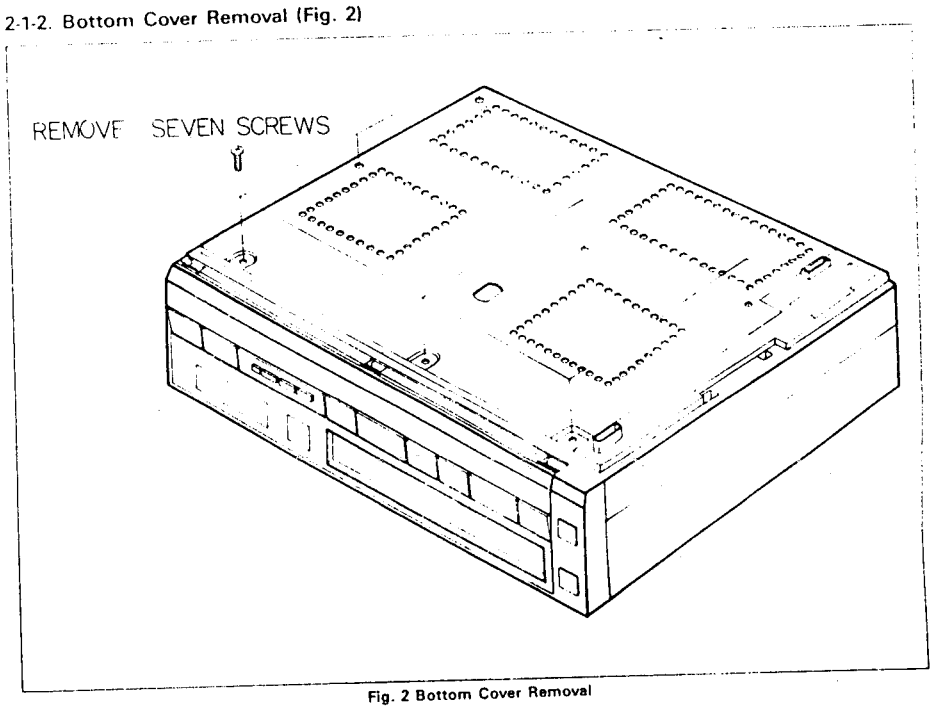


Fig. 2 Bottom Cover Removal

1. Remove seven (7) screws holding the bottom cover.

2-1-4. Function Switch Circuit Board Removal (Fig. 4)

Fig. 4 Function Switch Circuit Board Removal

1. Follow the procedure for removing the Panels. (See Figs. 1 to 3)
2. Remove one (1) screw holding the function switch circuit board.
3. Release three (3) tabs on the circuit board.
4. Disconnect one (1) connector (CN801) on this board.

2-1-5. Timer/Input Key Circuit Board Removal (Fig. 5)

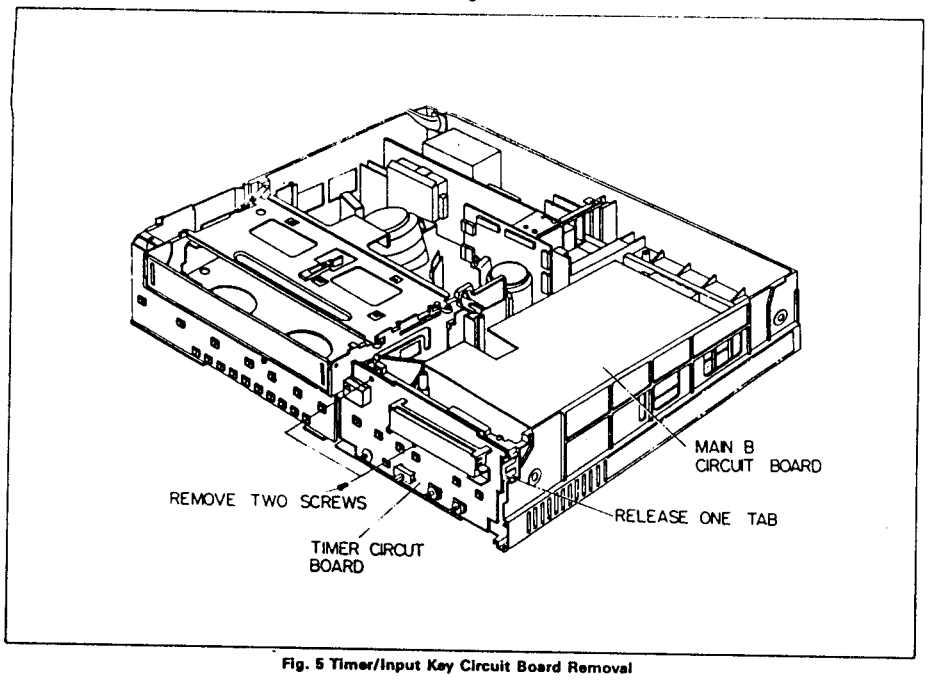


Fig. 5 Timer/Input Key Circuit Board Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Remove two (2) screws holding the timer/input key circuit board.
3. Disconnect two (2) connectors (CN601), (CN203) on the main circuit board, and release one (1) tab on the timer/ input key.
3. Taking care of the cable assemblies, pull the circuit board forward to release.

Note: Before removal of the timer/input key circuit board, make sure that the function switch circuit board.

2-1-6. Main B Circuit Board Removal (Fig. 6)

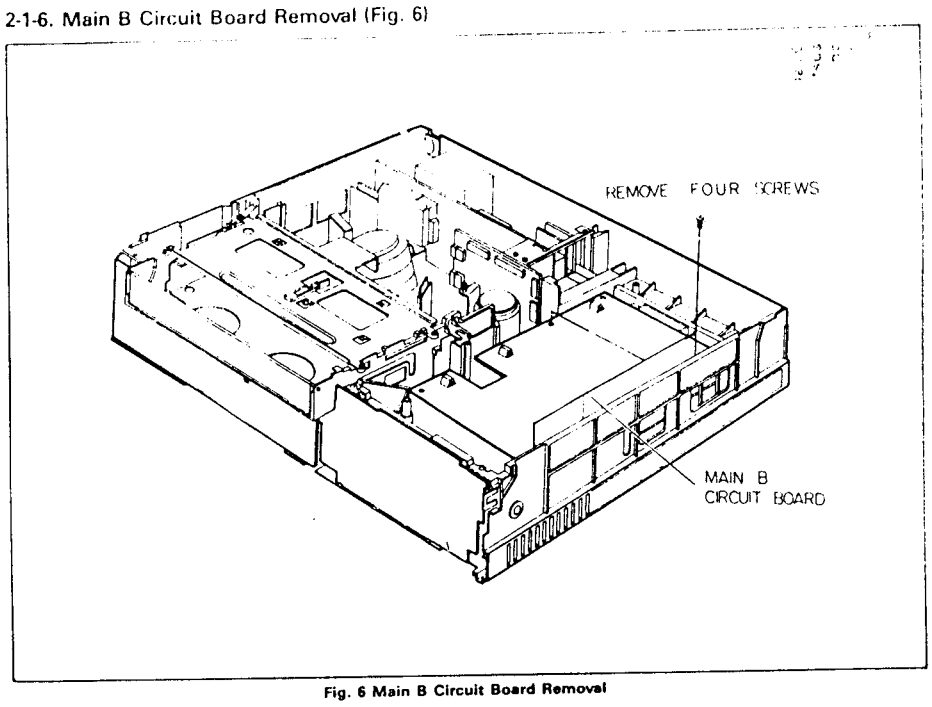


Fig. 6 Main B Circuit Board Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Disconnect on (4) connector (CN301 CN303 CN304) on the Main-B board
3. Remove four (4) screws on the Main B PC Board and the hindge from the frame.
4. Pull out the board in the direction of the arrow.

2-1-7. Main A Circuit Board Removal (Fig. 7)

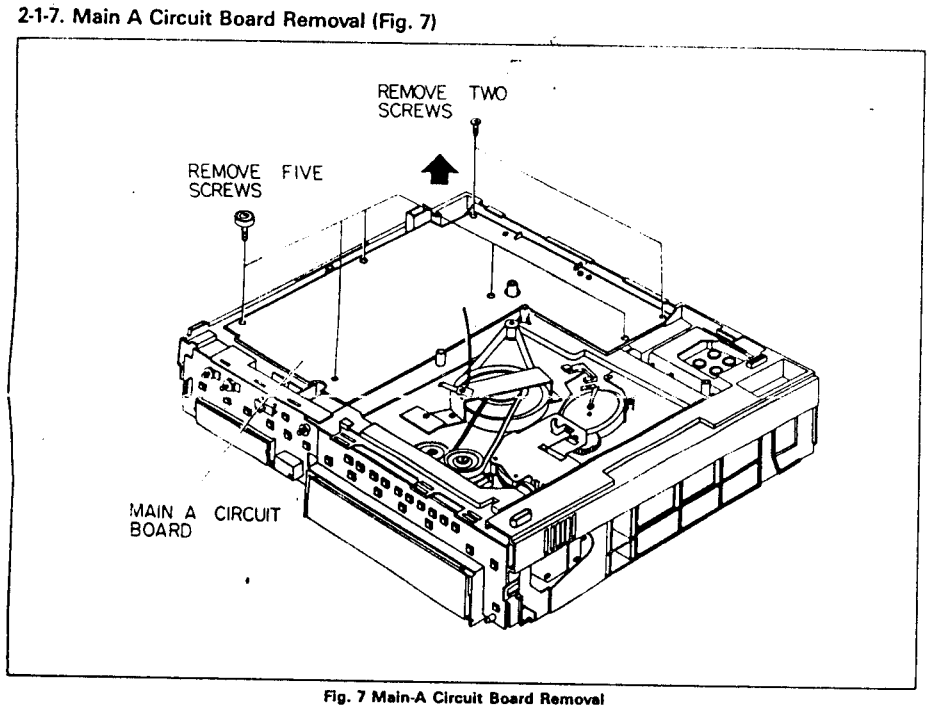


Fig. 7 Main-A Circuit Board Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Disconnect eight (8) connectors between the main circuit board and the other circuit boards.
3. Remove seven (7) screws on the main board.
4. Lift up the assembly in the direction of the arrow.

2-1-8. Regulator Circuit Board Removal (Fig. 8)

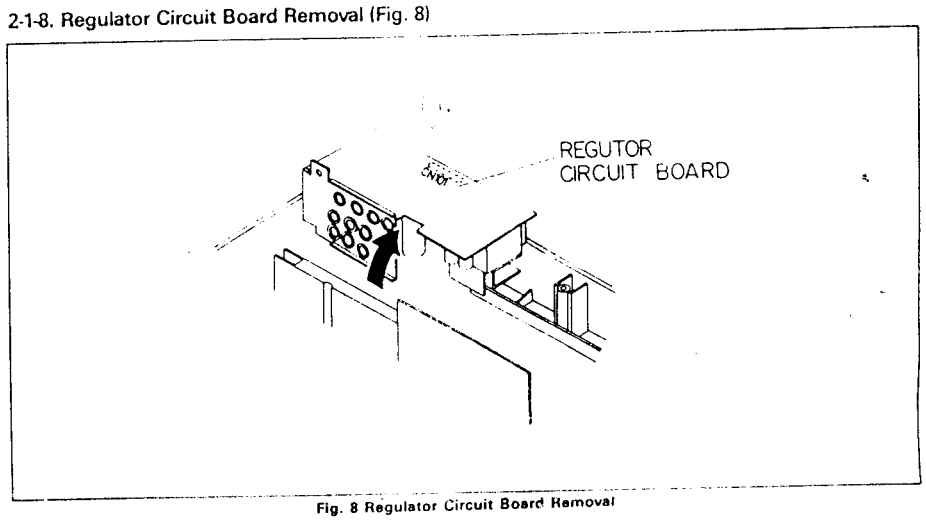


Fig. 8 Regulator Circuit Board Removal

1. Follow the procedure for removing the panels.
2. Remove three (3) screws from the frame.
3. Disconnect one (1) a connector (CN101), on the regulator circuit board.
4. Remove the IC from the Lower Drum.
5. Taking care of the cable assemblies, lift the regulator circuit board upward to release.

2-1-9. PWB-Deck Joint (G-7) Removel (Fig. 9)

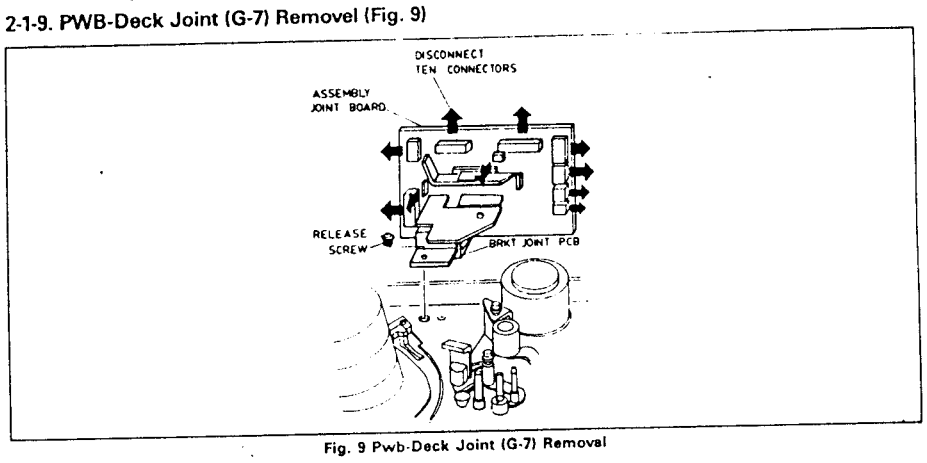


Fig. 9 Pwb-Deck Joint (G-7) Removal

1. Removal the top panel. (See Fig. 1)
2. Disconnect ten (10) connectors (Fig. 9)
3. Remove the screw holding Pwb-deck joint (G-7).

2-2. MECHANICAL DISASSEMBLY

Tape Transport Mechanism Identification.

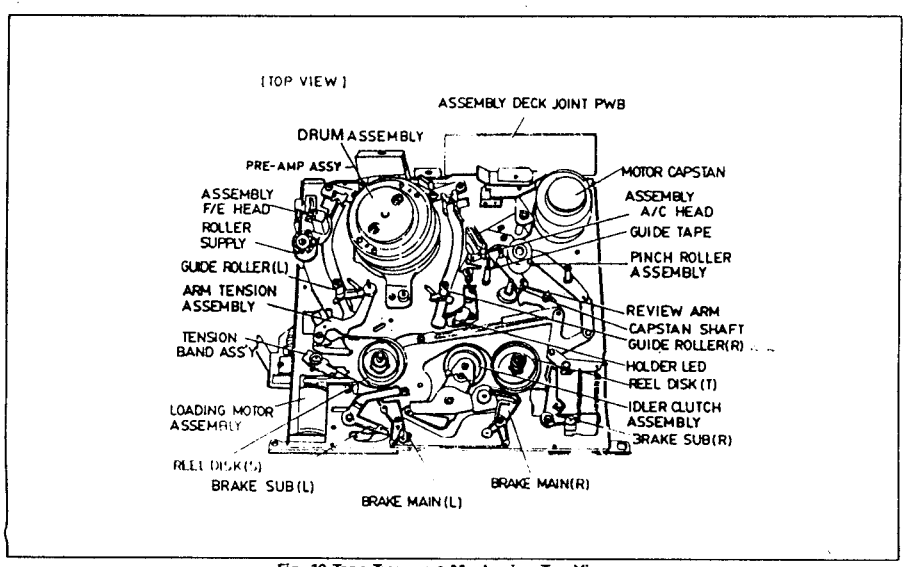


Fig. 10 Tape Transport Mechanism-Top View

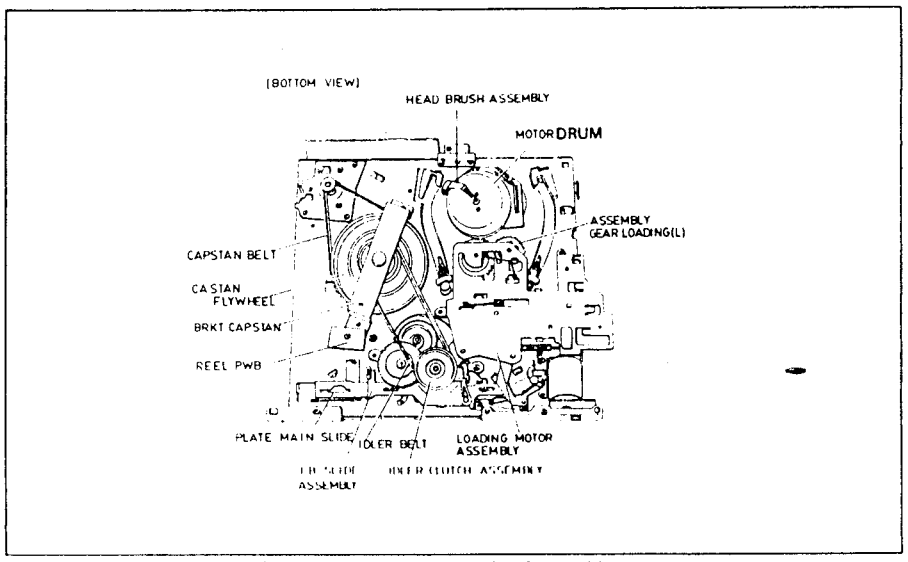


Fig. 11 Tape Transport Mechanism-Bottom View

2-2-4. Mechanical Chassis Assembly Removal (Fig. 22)

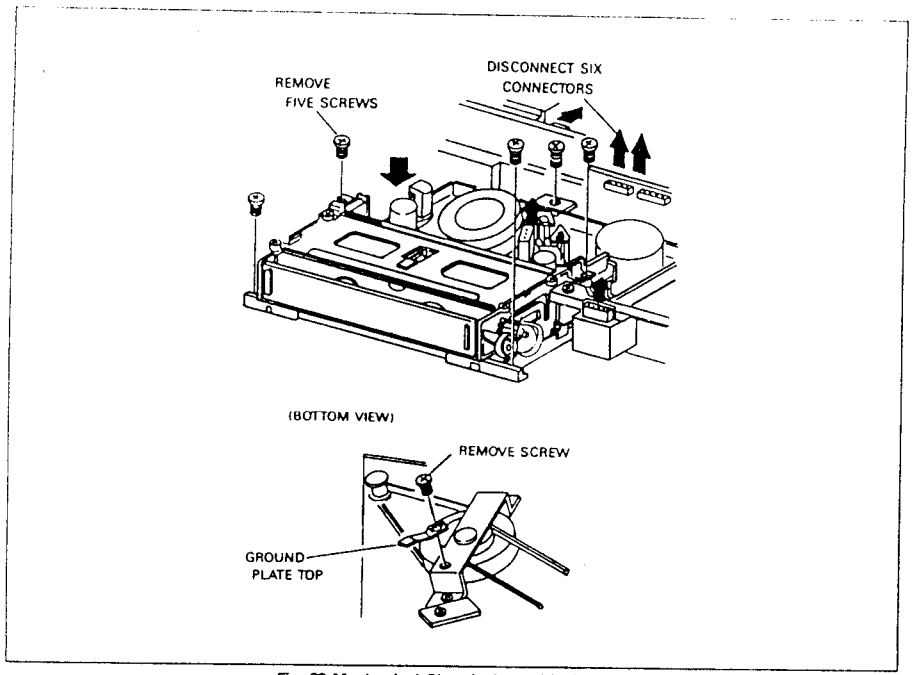


Fig. 22 Mechanical Chassis Assembly Removal

1. Remove the Panels (See Figs. 1 to 3)
2. Remove the screw. (Bottom View)
3. Disconnect six connectors.
4. Remove five screws and pull the mecha chassis assembly upward to remove.

2-2-5. Video Head (Upper Drum) Removal and Drum Motor Assembly Removal. (Fig. 23)

Note: Take extreme care when removing the upper drum. Do not touch the video head tips (located in the upper drum) during servicing.

Follow the procedure for removing

1. Remove the top cabinet (See Fig. 1)
2. Remove the bottom cover (See Fig. 2)
3. Remove two (A) screws holding the cover upper drum.
4. Remove four wires soldered to PWB-Upper drum P-3.

Note: Upon reinstallation, connect four wire colors to wires of the same color which are soldered PWB-Upper drum P-3.

5. Remove two (B) screws on the upper drum.
6. Lift up the upper drum in the direction of the arrow.
7. Remove two (C) screws holding the drum motor.
8. Disconnect connector from the drum motor.
9. Remove three screws (D) holding the drum motor.

When it is necessary to remove lower drum, remove three screws (E) and lift up the lower drum assembly in the direction of the arrow.

Note: Upon reinstallation, alternately tighten two (2) upper drum holding screws and perform the following adjustments.
Tracking Preset Adjustment.
A/C Head Horizontal Position Adjustment.

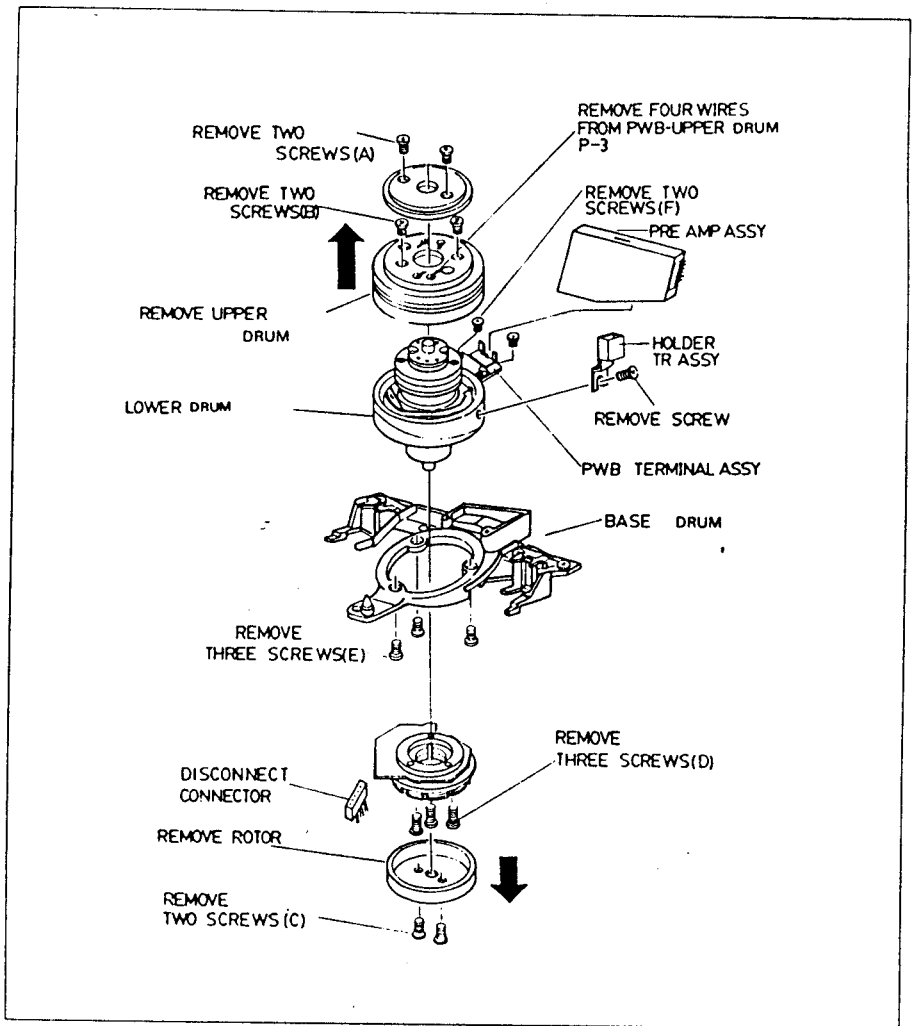


Fig. 23 Video Head Removal and Drum Motor Assembly Removal.

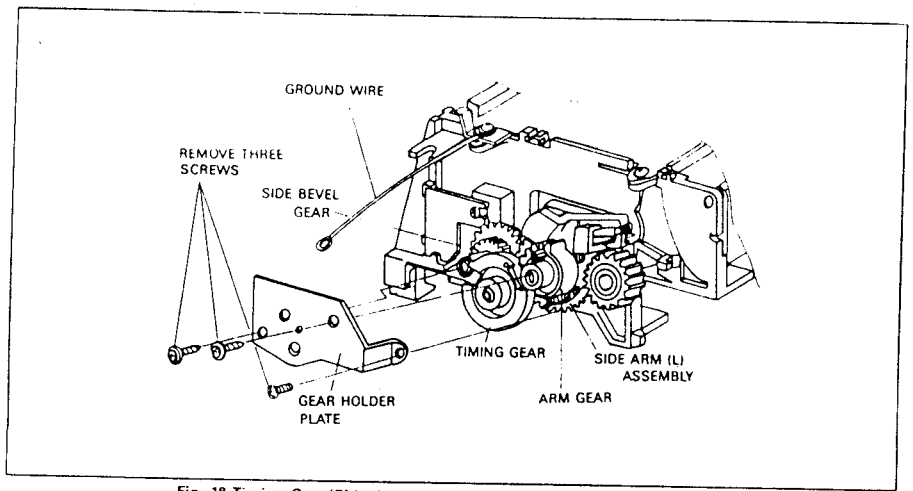


Fig. 18 Timing Gear/Side Arm (L) Assembly/Side Bevel Gear Removal

9. Remove the three screws of the gear holder plate holding each gear. (Fig. 18)
   (Remove the ground wire at the same time)
10. Remove the timing gear. (Fig. 18)
11. Remove the side arm (L) assembly. (Fig. 18)
12. Remove the side bevel gear. (Fig. 18)

Notes: •Side arm (R) reinstalling the side arm (L) assembly.
Fix at the reinstalling point of relay gear (R) and (L), and at this moment cassette holder shaft (R) (L) must Not be inserted in the groove of the side arm (R) (L) (Fig. 19)
•When assembling the timing gear, first tooth of the arm gear (C) must be fitted between the full tooth (A) and the half tooth (B) of the timing gear like the "A" part of the Fig. 19.

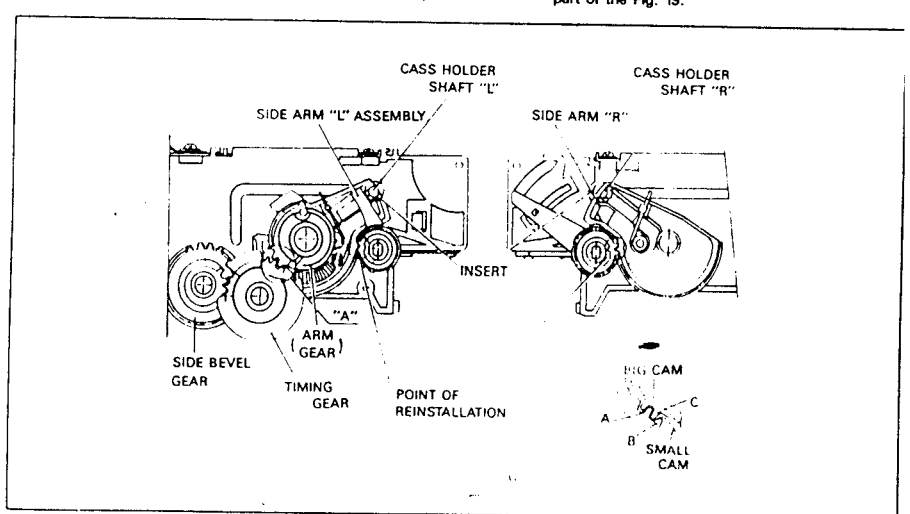


Fig. 19 Side Arm (R) and (L) Reinstallation

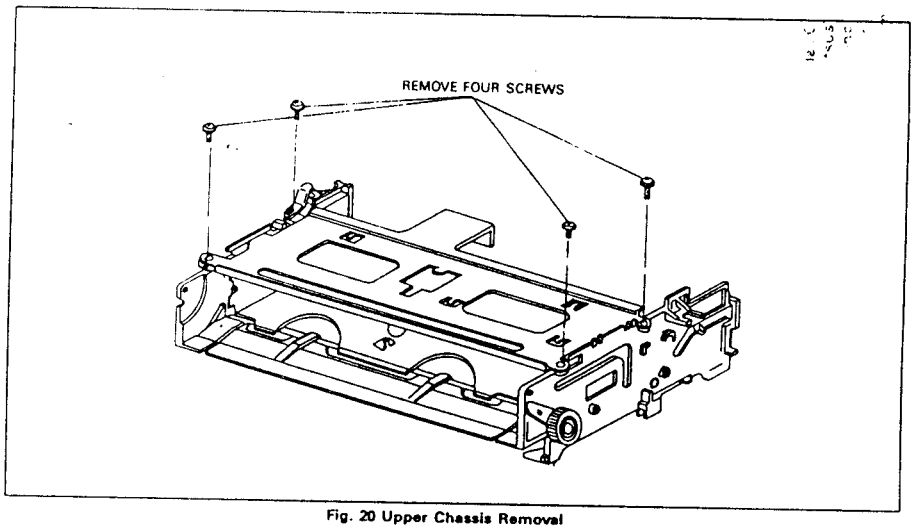


Fig. 20 Upper Chassis Removal

13. After removing four screws, pull the upper chassis upward to remove. (Fig. 20)
14. Side Arm (L) Assembly Remove. (Fig. 21)
    1) Release the eject spring.
    2) Remove the arm gear.
    3) Release the arm tension spring.

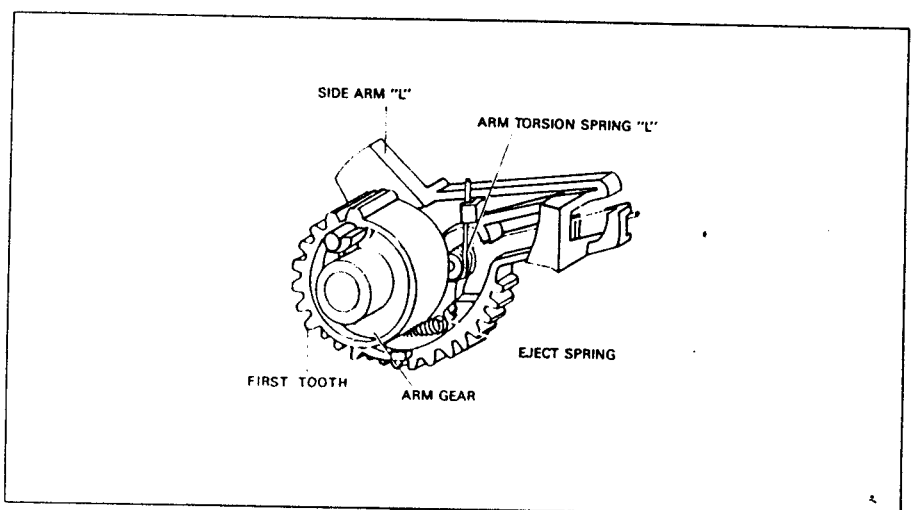


Fig. 21 Side Arm (L) Assembly Removal

2-2-3. Housing Assembly Disassembly (Fig. 14 to 21)

1. Remove front mask. (Fig. 14)

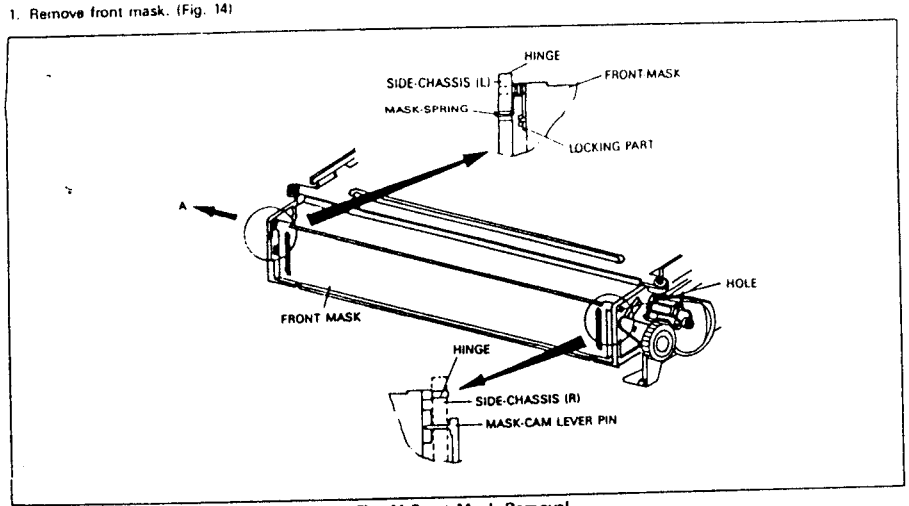


Fig. 14 Front Mask Removal

- Pulling front mask to the direction of arrow A, disintegrate a reinstalled front mask hinge part in the hole of the side-chassis (R) and disintegrate a reinstalled hinge part in the hole of the side-chassis (L) to the reverse direction.

NOTE:
- One end of the mask spring must be reinstalled at the locking part of the front mask and the other end must be reinstalled the hook part of the side chassis (L).
- Upon reinstallation of front mask slide part of right hand must be reinstalled in front of the mask cam lever pin. (Fig. 14)

2. Remove REC S/W (Fig. 15)
   Disintegrate REC S/W attaching to the guide cassette.

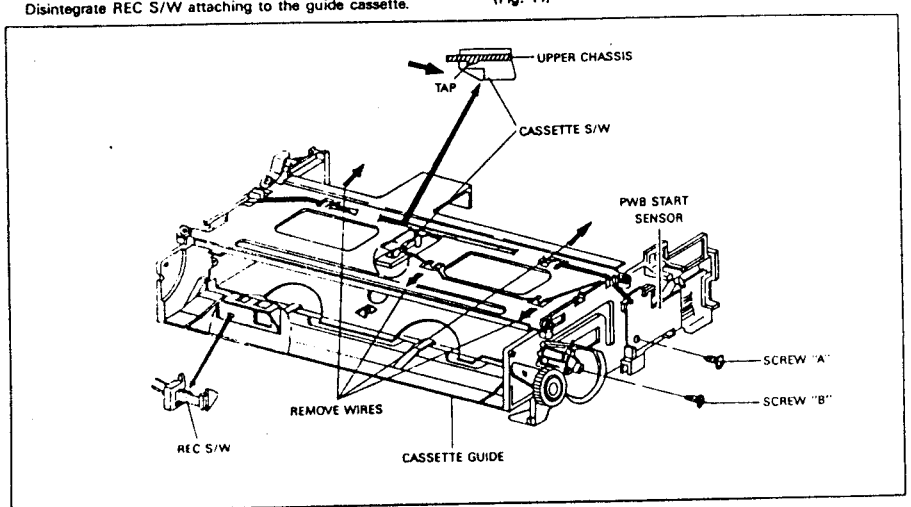


Fig. 15 Rec S/W / Cassette S/W / Pwb Start Sensor / Side Arm (R) Removal

3. Pwb end sensor remove (Fig. 16)
   - After removing the screw at the side chassis (L), disintegrate PWB end sensor.

   Note: Pay attention to the TR and Photo TR attached to the Pwb end sensor.

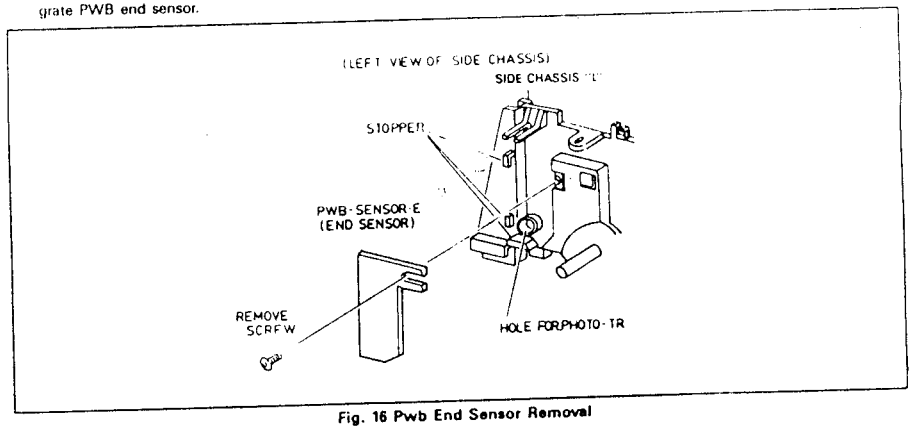


Fig. 16 Pwb End Sensor Removal

4. Release the tab of the cassette S/W and remove the cassette S/W. (Fig. 15)
5. Pwb Start sensor removal (Fig. 15)
   - After removing the screw (A) at the side chassis (R), disintegrate PWB start sensor.

   Note: Pay attention to the TR and Photo TR attached to the Pwb start sensor.
6. Remove the wires. (Fig. 15)
   Note: Each wire is connected to Rec S/W, Pwb end sensor, cassette S/W and Pwb start sensor.

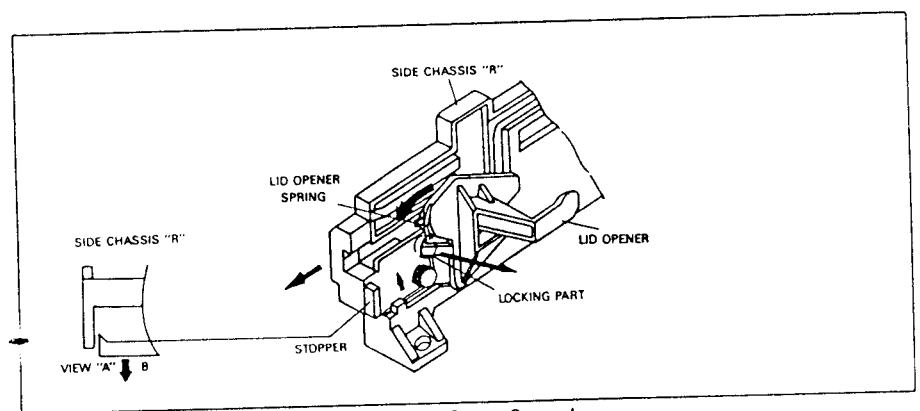


Fig. 17 Lid Opener Removal

7. Lid opener removal (Fig. 17)
   - Remove the lid opener spring from the locking part of the lid opener.
   - Pull the lid opener in the direction of A. and release the locking part pulling it in the direction of B, be fore touching the stopper of the side chassis. (Refer to view A)
8. After removing the screw (B), remove the side arm (R) (Fig. 15)
   Note: Arm tension spring is set up to the side arm (R).

2-2-1. Housing Assembly Removal (Fig. 12)

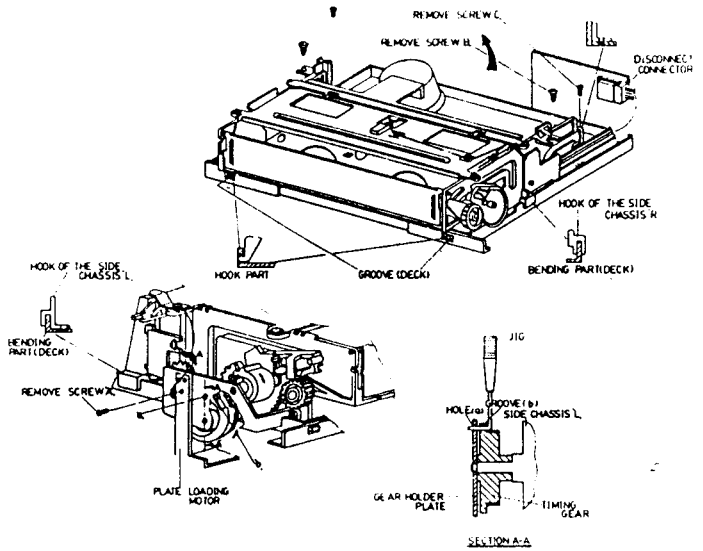


Fig. 12 Housing Assembly Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Disconnect connector from pwb-deck Joint.
3. Remove the screw. (A)-Joint screw of housing and plate loading motor.
4. Remove the two screw. (B)-Joint screw of housing and frame.
5. Remove the two screw. (C)-Joint screw of housing and deck.
6. Lift the rear of the housing assembly toward arrow mark.

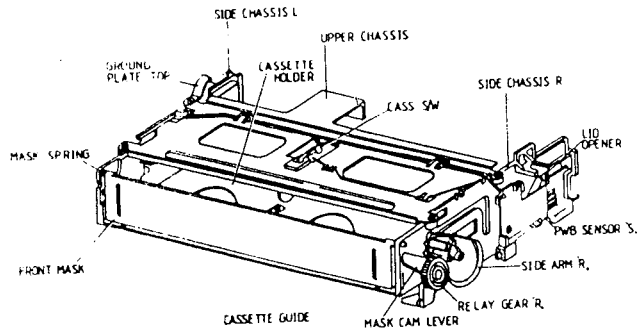
Note: •When reinstalling housing assembly to the deck, first insert the hook part of the housing to the groove of the deck. Second fit the hook of the side chassis (R) (L) to the bending part of the deck.

•Before jointing screws (C), fix assembling point of the timing gear and arm gear rotating the side bevel gear to the direction of arrow A

a) Assembling point is the point that the hole of the gear holder plate corresponds to the groove of the timing gear like the section A-A'.

b) If the assembly point is not correct. It does not return to the initial position completely.

2-2-2. Housing Assembly Identification (Fig. 13)



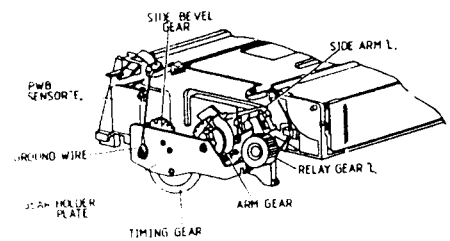


Fig. 13 Housing Assembly Identification

Note. . . . . .

Note: _____

2-2-6. Full Erase (FE) Head/Supply Roller Removal (Fig. 24)

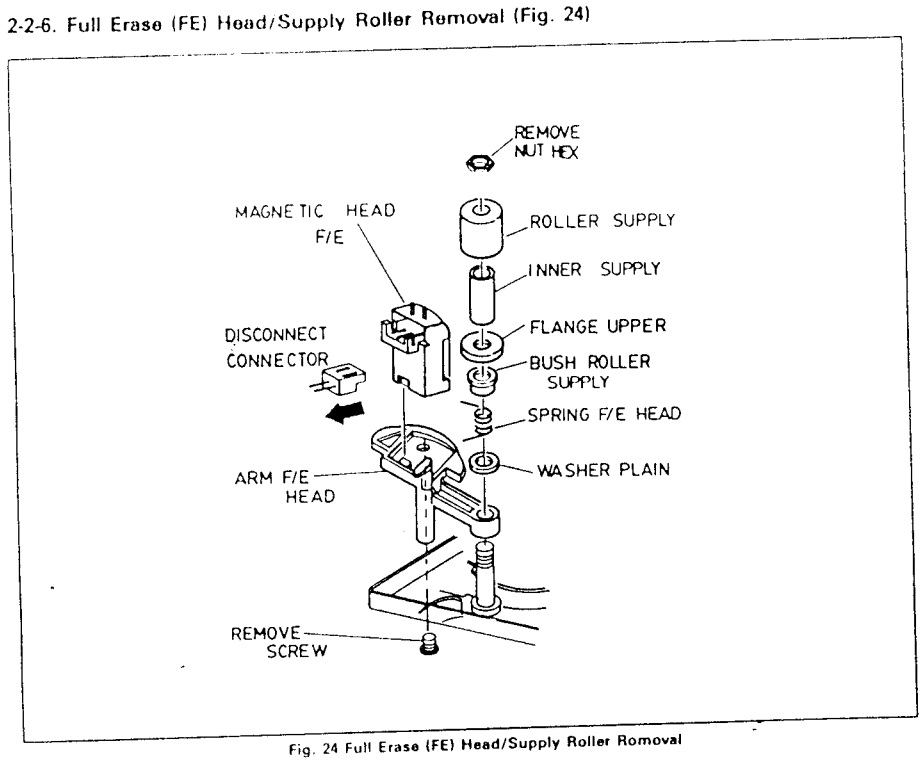


Fig. 24 Full Erase (FE) Head/Supply Roller Romoval

1. Remove the top cabinet (See Fig. 1)
2. Disconnect connector from the F/E Head.
3. Remove the nut at the top of the supply roller and remove the washer plain, supply roller, inner supply, flange upper, bush roller supply.
4. Remove the spring F/E head arm, washer plain.
5. Pull the arm F/E head upward to remove.
6. Remove the screw holding the F/E head at the back of the base.
7. After replacing or reinstalling the FE head, clean each tape contact surface of the F/E head and supply roller.

Note: Upon reinstallation, peform the supply roller height adjustment.

2-2-7. Audio/Control (A/C) Head Removal (Fig. 25)

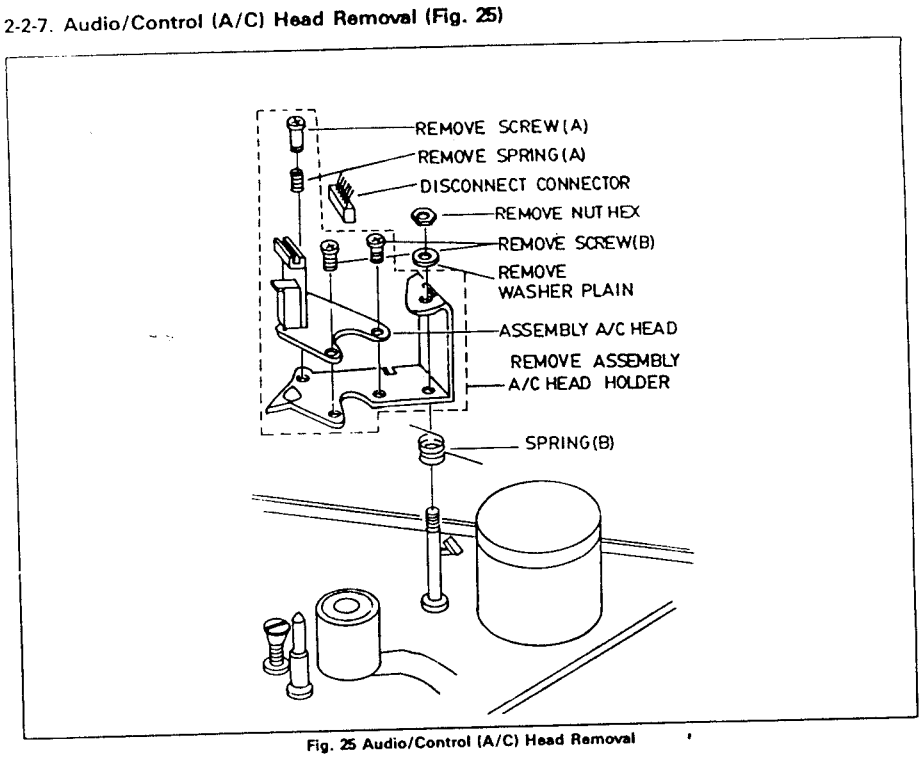


Fig. 25 Audio/Control (A/C) Head Removal

1. Remove the top cabinet. (See Fig. 1)
2. Disconnect connector from the A/C head.
3. Remove the nut holding the A/C Head Holder and remove the washer plain.
4. Pull the A/C head assembly upward to remove.
5. Remove screw (A) and spring (A)
6. Remove screw (B) and remove assembly alchead.
7. After replacing or reinstalling the assembly A/C head holder, clean the tape contact surface of the head.

Note: Upon reinstallation, hook the spring between A/C head base and mecha chassis.
After installing the assembly A/C head and assembly A/C head holder, perform the following adjustment.
1) A/C Head Height, Tilt and Azimuth Adjustments.
2) A/C Head Horizontal Position Adjustment.
3) Audio Playback Gain Adjustment.
4) Audio Bias Level Adjustment.
- Audio head height must be performed before A/C head, horizontal position adjustment is performed.
- If audio head height is adjusted, the A/C head horizontal position must be readjusted.
- After completion, of the A/C head position adjustment, the A/C head base must be positioned at approximately the center of the mat adjust.

2-2-8. Loading Motor Assembly Removal (Fig. 26)

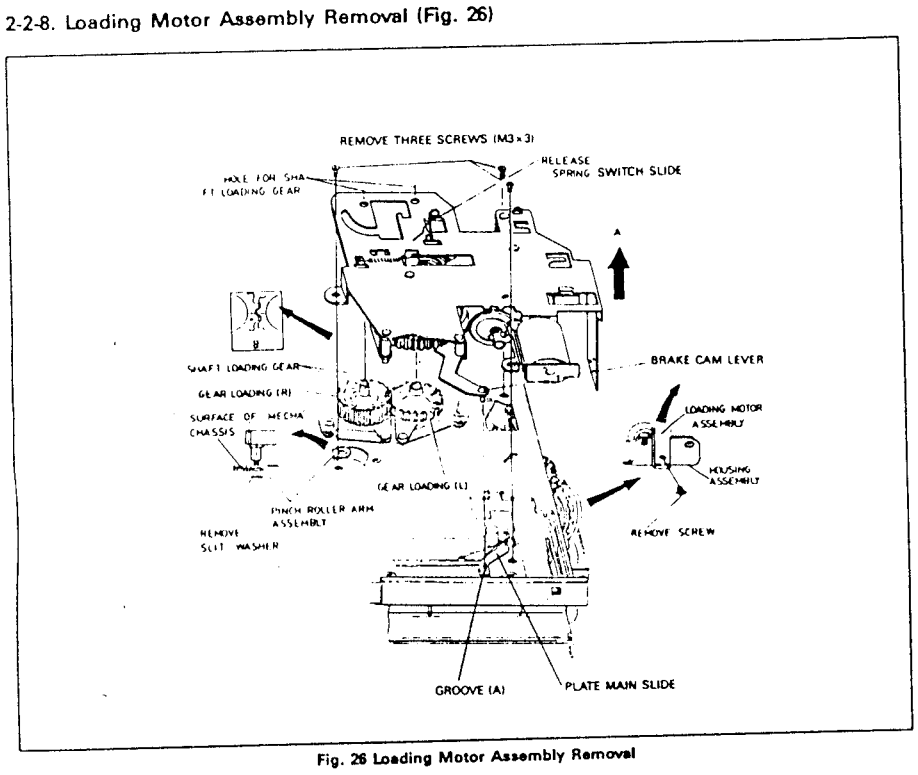


Fig. 26 Loading Motor Assembly Removal

1. Remove the top cabinet (See Fig. 1)
2. Remove the bottom cover (See Fig. 2)
3. Remove the mecha chassis assembly (See Fig. 22)
4. Remove the housing assembly (See Fig. 12)
5. Remove the slit washer
6. Release the spring S/W slide, and the gear loading spring
7. Remove the three screws and pull the loading motor assembly upward in the direction arrow mark (A)

Note: Upon reinstallation, be sure the marks on the gear loading (L), (R) are positioned in the line (See. B) and S/W slide position is at the end of left side.

2-2-9. Arm Tension Assembly, Tension Band Assembly and Holder Tension Spring Removal. (Fig. 27)

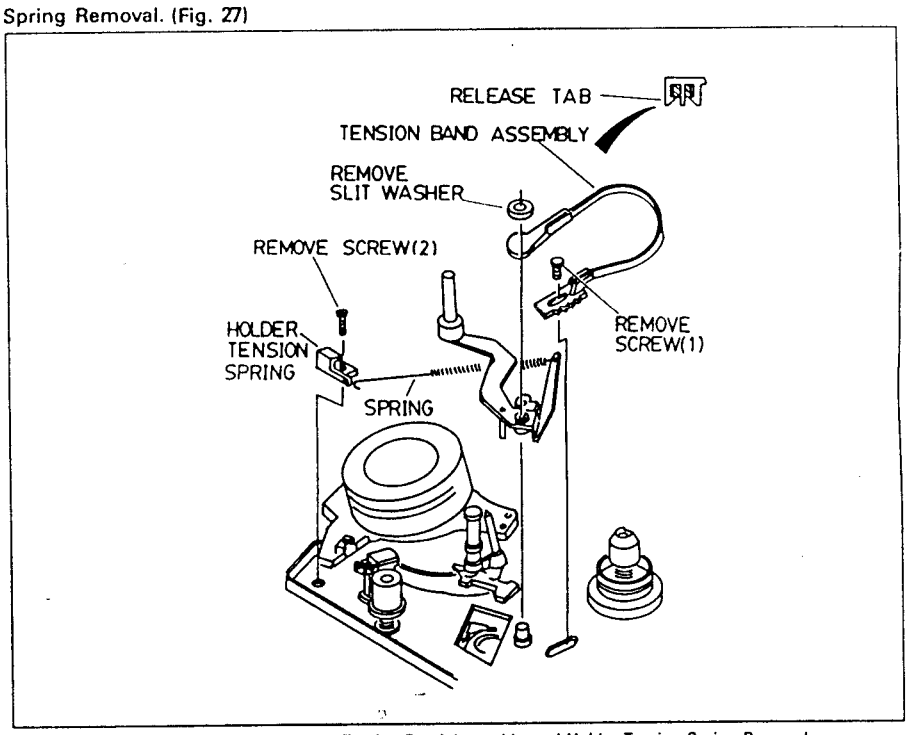


Fig. 27 Arm Tension Assembly, Tension Band Assembly and Holder Tension Spring Removal

1. Remove the screw (1) holding the tension band assembly.
2. Release the spring hooked on the holder tension spring.
3. Remove the screw (2) and remove the holder tension spring.
4. Remove the slit washer and Pull the arm tension assembly upward.
5. Release the tab holding the tension band assembly.

2-2-10. Brake Sub (R) Assembly and Brake Sub (L) Assembly Removal. (Fig. 28)

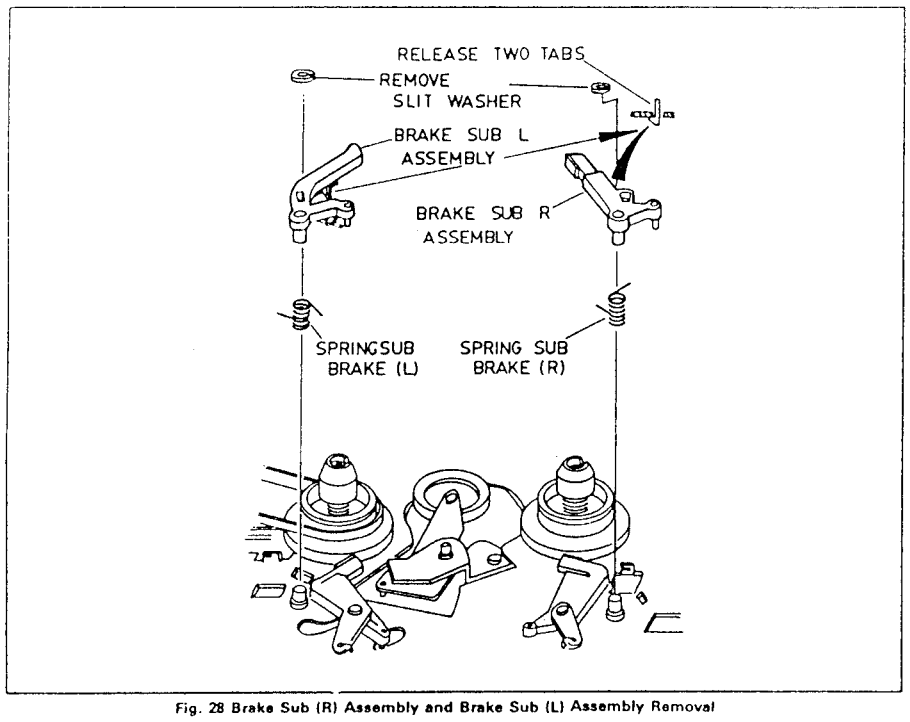


Fig. 28 Brake Sub (R) Assembly and Brake Sub (L) Assembly Removal

1. Follow the procedure for removing the Panels. (See Figs. 1 to 3)
2. Remove the housing assembly (See Fig. 12)
3. Remove the two slit washers and release the sub brake (R) spring.

2-2-11. Brake Main (L) Assembly and Brake Main (R) Assembly Removal (Fig. 29)

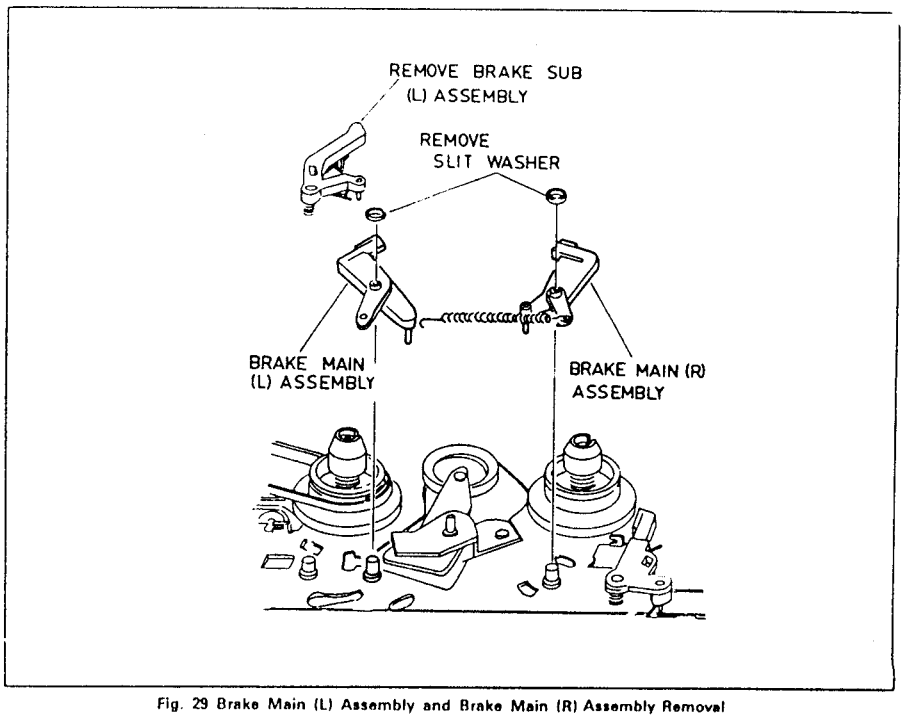


Fig. 29 Brake Main (L) Assembly and Brake Main (R) Assembly Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)

2-2-12. Capstan Motor Removal (Fig. 30)

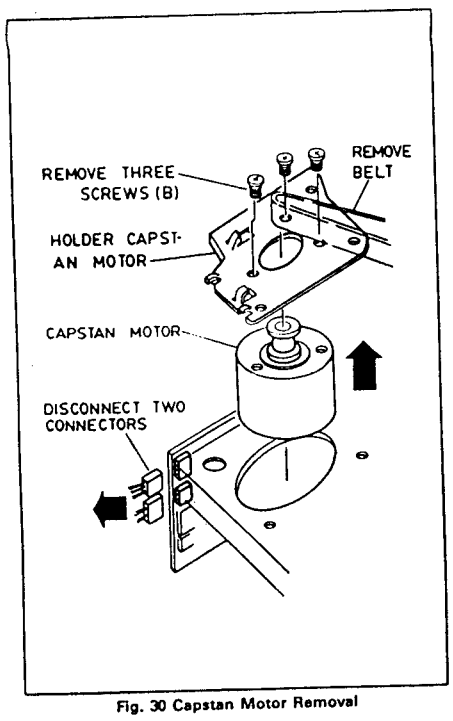


Fig. 30 Capstan Motor Removal

1. Remove the Panels. (See Fig. 1 to 3)
2. Remove the mecha chassis assembly (See Fig. 22)
3. Disconnect two connectors.
4. Release the capstan belt from the pulley capstan.
5. Remove three screws (B) attached to capstan motor.

2-2-13. Assembly Gear Loading (L) (R) Removal (Fig. 31)

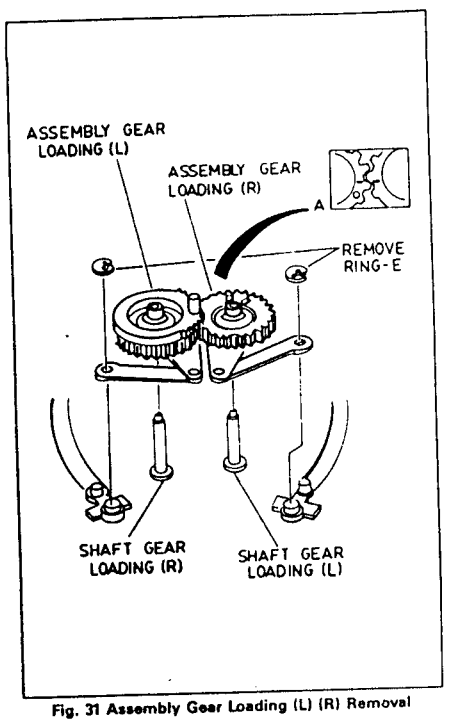


Fig. 31 Assembly Gear Loading (L) (R) Removal

1. Follow the procedure for removing the panels (See Figs. 1 to 3)
2. Remove mecha chassis assembly (See Fig. 22)
3. Remove the housing assembly (See Fig. 12)
4. Remove the loading motor assembly (See Fig. 26)
5. Remove the ring-E holding on the arm loading assembly

Note: Fully unloaded position upon reinstallation, be sure the marks on the gear loading (L) (R) are positioned in the line (See. A)

2-2-14. Guide Roller Assembly Removal (Fig. 32)

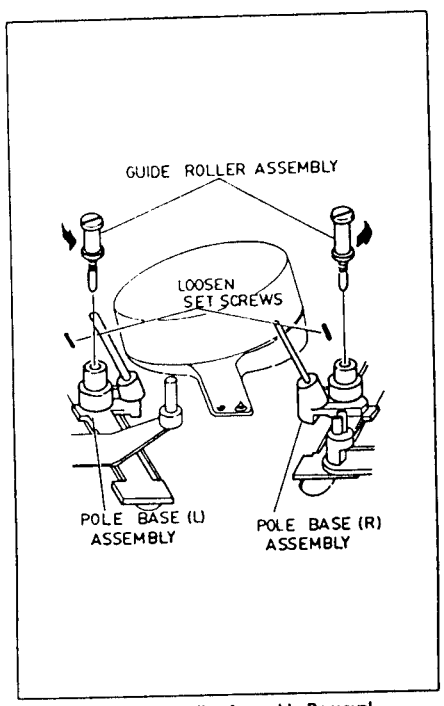


Fig. 32 Guide Roller Assembly Romoval

1. Remove the top and the bottom cover. (See Figs. 1, 2)
2. Loosen each set screw at the pole base assembly.
3. Turn the guide roller assemblies to the counter clock wise.
4. After replacing or reinstalling the guide roller assemblies, clean each tape contact surface of the guide roller assemblies.

Note: Upon reinstallation, perform the guide roller assemblies adjustment.

2-2-15. Reel Disk (S) Assembly Removal (Fig. 33)

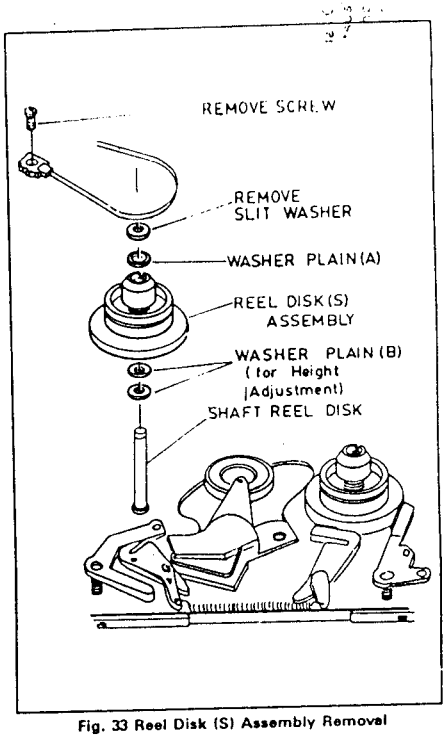


Fig. 33 Reel Disk (S) Assembly Removal

1. Remove the top and bottom panels. (See Figs. 1, 2)
2. Remove the housing assembly (See Fig. 12)
3. Remove the screw holding the tension band assembly.
4. Remove the slit washer from the shaft reel disk.
5. Remove the washer plain (A)

Note: Pay particular attention to the washer plain (B) under the reel disk (S) assembly.

2-2-16. Reel Disk (T) Assembly Removal. (Fig. 34)

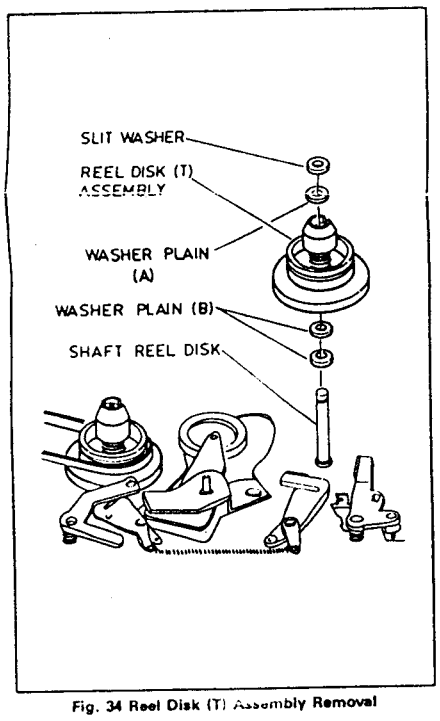


Fig. 34 Reel Disk (T) Assembly Removal

1. Remove the top and bottom cover. (See Fig. 1,2)
2. Remove the housing assembly. (See Fig. 12)
3. Remove the slit washer from the shaft reel disk.
4. Remove the washer plain (A) and pull the reel disk (T) assembly upward.

Note: Pay particular attension to the washer plain (B) under the reel disk (T) assembly.

2-2-17. Pinch Roller Assembly and Pinch Roller Arm Assembly Removal (Fig. 35)

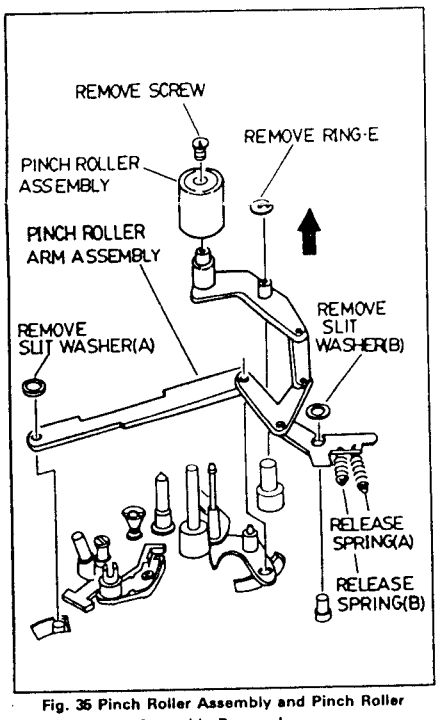


Fig. 35 Pinch Roller Assembly and Pinch Roller Arm Assembly Removal

1. Follow the procedure for removing the panels (See Figs. 1 to 2)
2. Remove the housing assembly. (See Fig. 12)
3. Remove the screw holding the pinch roller assembly.
4. Remove the ring-E
5. Remove the slit washer (A) and slit washer (B)
6. Release the spring pinch roller.
7. Pull the pinch roller arm assembly upward (arrow direction) to remove.

2-2-18. Assembly Holder LED Removal (Fig. 36)

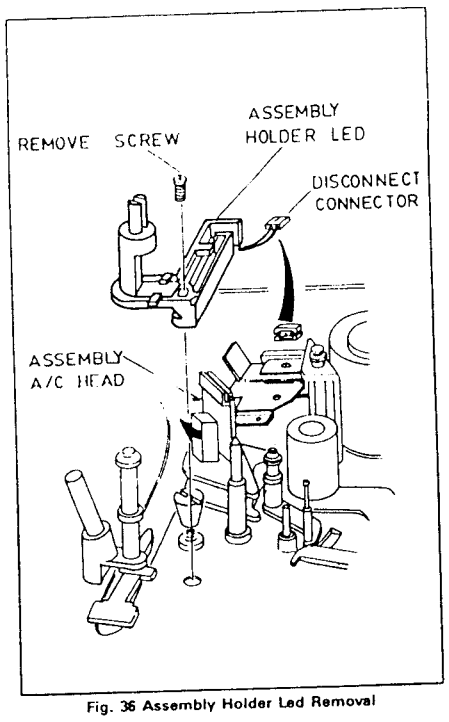


Fig. 36 Assembly Holder Led Removal

1. Follow the procedure for removing the panels. (See Fig. 1)
2. Remove the housing assembly. (See Fig. 12)
3. Disconnect connector.
4. Remove screw and pull the assembly holder LED upward to remove at the same time pushing the assembly A/C head toward arrow mark direction.

2-2-19. Review Arm Assembly Removal (Fig. 37)

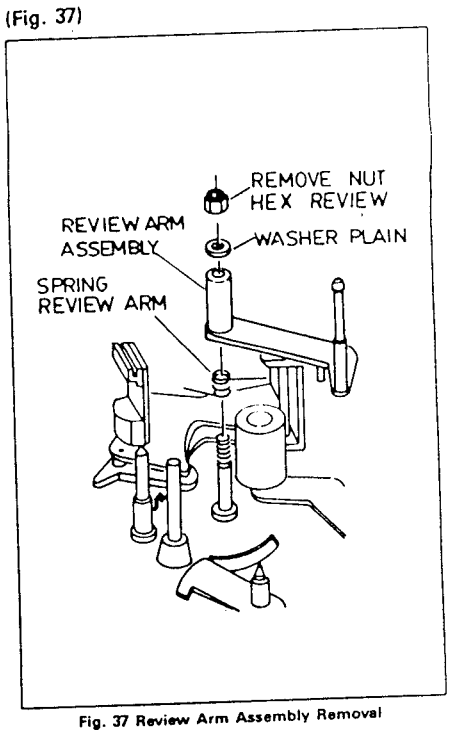


Fig. 37 Review Arm Assembly Removal

1. Remove the top cabinet (See Fig. 1)
2. Remove nut hex, collar review and washer Plain.
3. Release spring review arm.
4. Pull the review arm assembly upward to remove.

Note:
- After replacing or reinstalling the review arm assembly.
- Clean the tape contact surface of the review arm assembly.
- Upon reinstallation, perform the review arm assembly adjustment.

2-2-20. Drum Assembly Removal (Fig. 38)

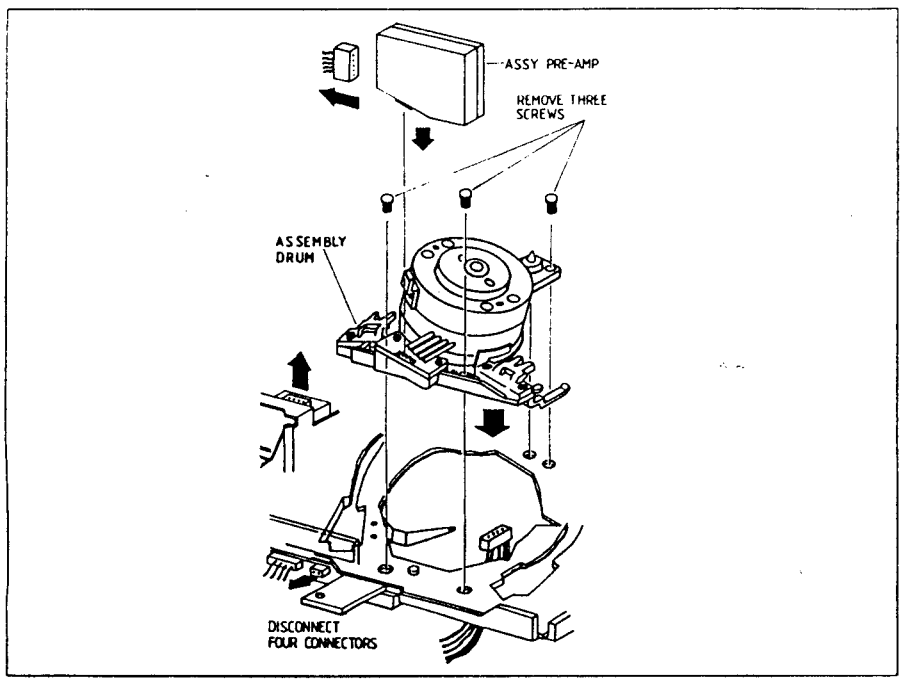


Fig. 38 Drum Assembly Removal

Note: Upon replacement of drum assembly bracket, all mechanical adjustment must be performed.

1. Follow the procedure for removing the panels. (See Fig 1 to 2)
2. Remove the pre-amp
3. Disconnect four connectors.
4. Remove three screws.

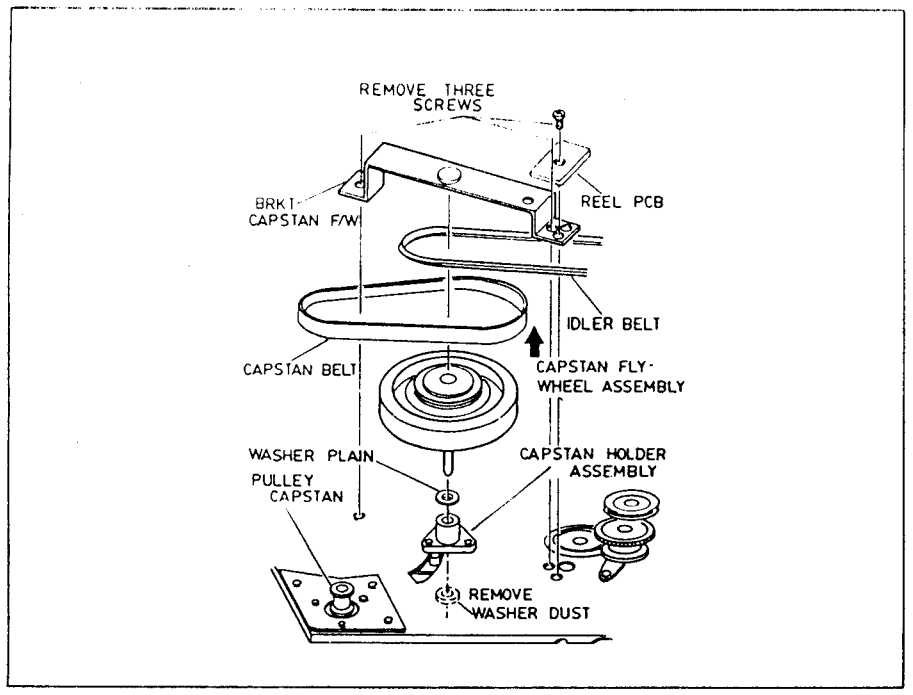


Fig. 39 Capstan Flywheel Removal-Bottom View

1. Remove the top and bottom panels. (See Figs. 1,2)
2. Remove three screws.
3. Release idler belt and capstan belt.
4. Carefully remove the capstan flywheel assembly. A dust washer is located on the shaft below the mecha chassis.
5. After replacing or reinstalling the capstan flywheel, clean the capstan shaft.
6. Remove three screws to remove capstan holder assembly.

2-2-22. Assembly Photo Interrupter Removal. (Fig. 40)

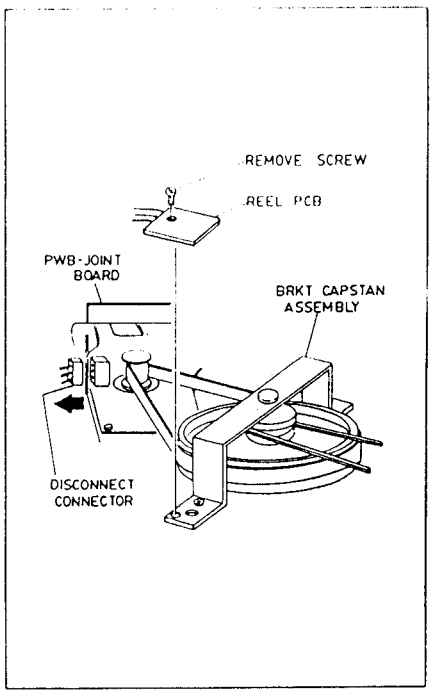


Fig. 40 Assembly Photo Interrupter Removal

1. Remove the top and bottom panels. (See Figs. 1,2)
2. Disconnect connector.
3. Remove screw.

2-2-23. I.B Slide Assembly and Plate Main Slide Removal. (Fig. 41)

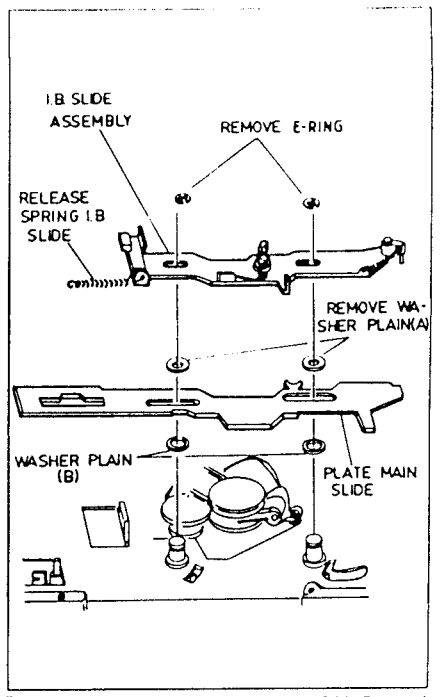


Fig. 41 I.B Slide Assemlby and Plate Main Slide Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Remove mecha chassis assembly. (See Fig. 22)
3. Remove loading motor assembly. (See Fig. 26)
4. Remove the ring-E and release spring I.B slide.
5. Remove washer plain (A) and pull the plate main slide upward to remove.

Note: Pay particular attention to the washer plain (B) under the plate main slide.
•I.B: Idler/Break

2-2-24. Idler Clutch Assembly Removal. (Fig. 42)

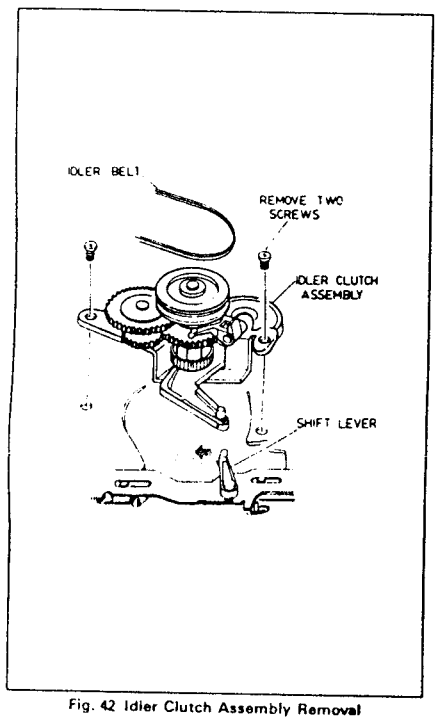


Fig. 42 Idler Clutch Assembly Removal

1. Remove the bottom cover. (See Fig. 2)
2. Release the Idler belt and remove the two screws.
3. Pull the Idler clutch assembly upward to remove, at the same time push the shift lever about 5-10 mm.

2-2-25. Remote Control Hand Unit Disassembly (Fig. 43)

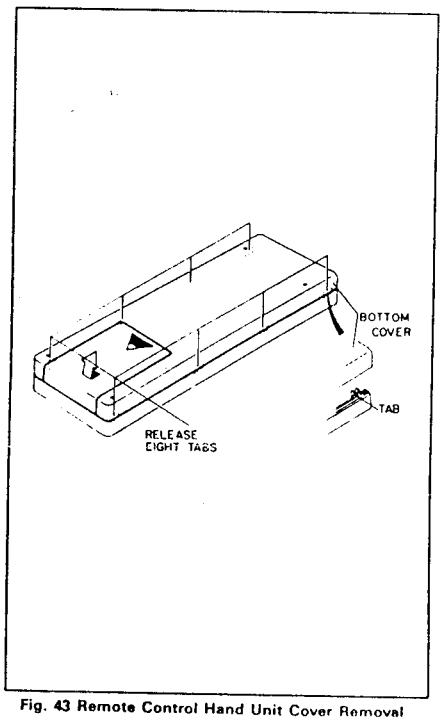


Fig. 43 Remote Control Hand Unit Cover Removal

Remote Control Hand Unit Cover Removal (Fig. 44)

1. Release eight (8) tabs holding the bottom cover.

2-3. HOW TO CHECK THE CIRCUIT BOARD ASSEMBLIES

2-3-1. Regulator C.B.A (Fig. 44)

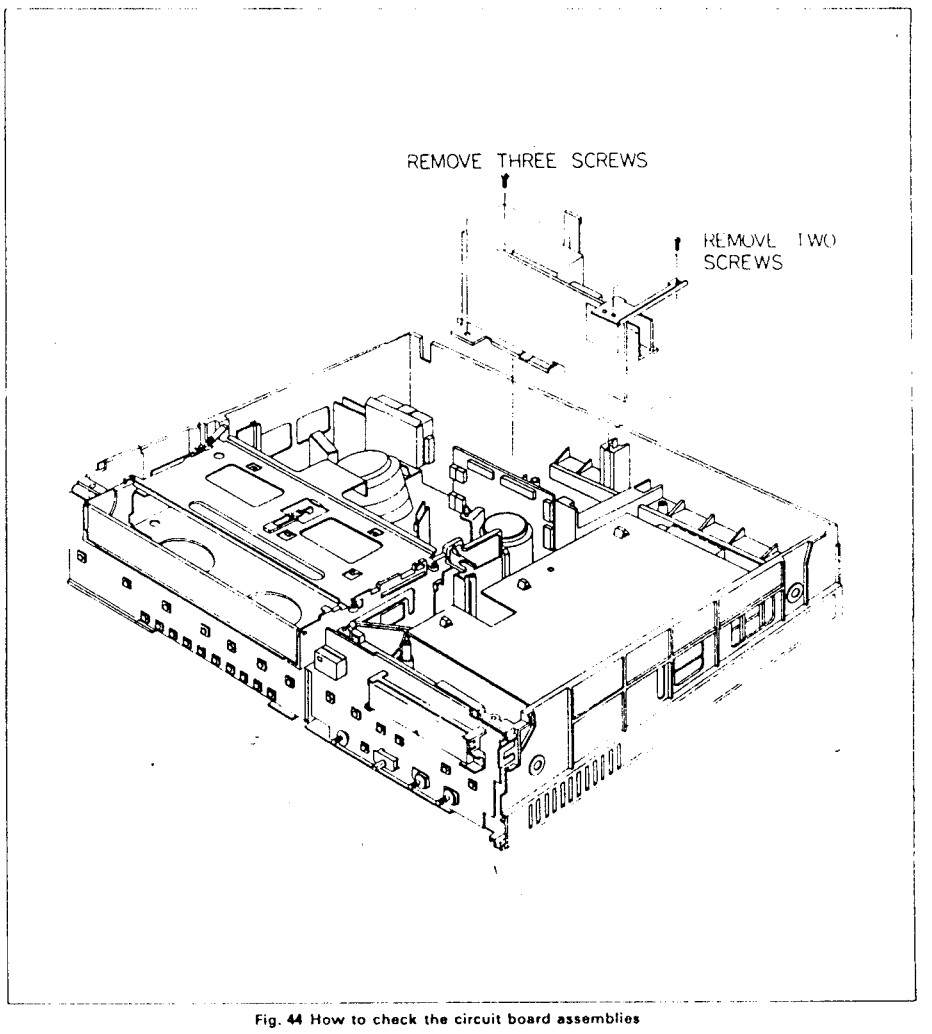


Fig. 44 How to check the circuit board assemblies

1. Release the regulator C.B.A.

Note: Remove the connector (CN101) to check the regulator C.B.A.

2-3-2. Main A C.B.A

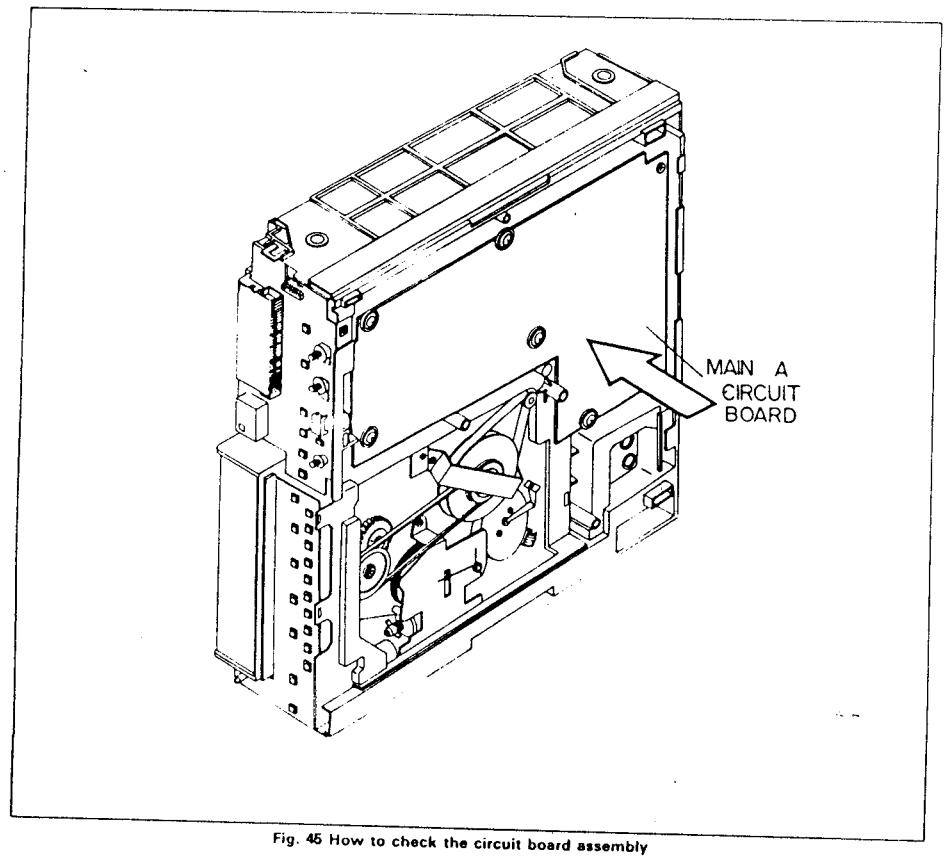


Fig. 45 How to check the circuit board assembly

1. Check from the direction of the arrow.

2-3-3. Main B C.B.A.

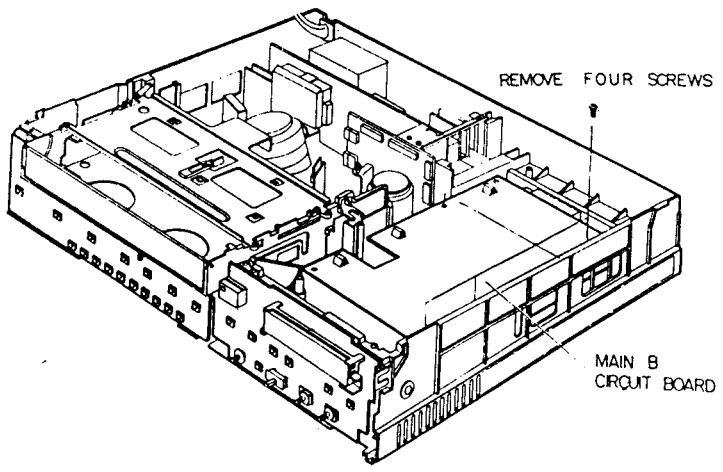


Fig. 46 How to check the circuit board assembly

3. MECHANICAL ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT TOOLS

No	Jig Item.		Code No.	Configuration	Description	Manufacture
1	Head Gauge		SSJ-1001		This jig is used to check and adjust the torque of Takeup/Supply Reel.	SAMSUNG
2	Master Plane and Reel Disk Height		SSJ-1002		This jig is used to check the height difference between Reel Disk and Deck Plate	SAMSUNG
3	Back Tension Measuring Cassette Tape		SSJ-1004		This tape is used for supply reel torque alignment.	SAMSUNG
4	Guide Pole Height Adjusting Jig.		SSJ-1005		Used to adjust tape height to the video head.	SAMSUNG
5	Drum Replacement Jig.		SSJ-1007		This jig is used when replacing the VCR's upper drum.	SAMSUNG
6	Alignment Tape	(SR1-2)	SSJ-1014C		This tape is used for fine electrical adjustment and tape running system (MECHA) alignment.	SAMSUNG
		(SR2-2)	SSJ-1014D			
7	Tension Gauge (5.0kg)		SSJ-1008		The gauges are used for tension measurements.	JAPAN
8	Torque Gauge		SSJ-1009		This jig is used to check and adjust the torque of Takeup/Supply Reel.	JAPAN
9	Hex Wrench (0.9mm)		SSJ-1010A		These wrenches are used for locking or tightening special Hexagon type screws	GENERAL
	Hex Wrench (1.2mm)		SSJ-1010B			
	Hex Wrench (1.5mm)		SSJ-1010C			
10	Tape Tension Gauge (Tentelo Meter)		SSJ-1011		This tape tension gauge is used for measuring the back tension of the running tape.	U S A

2-3-4. Timer/Input Key C.B.A. and Function Switch C.B.A. (Fig. 47).

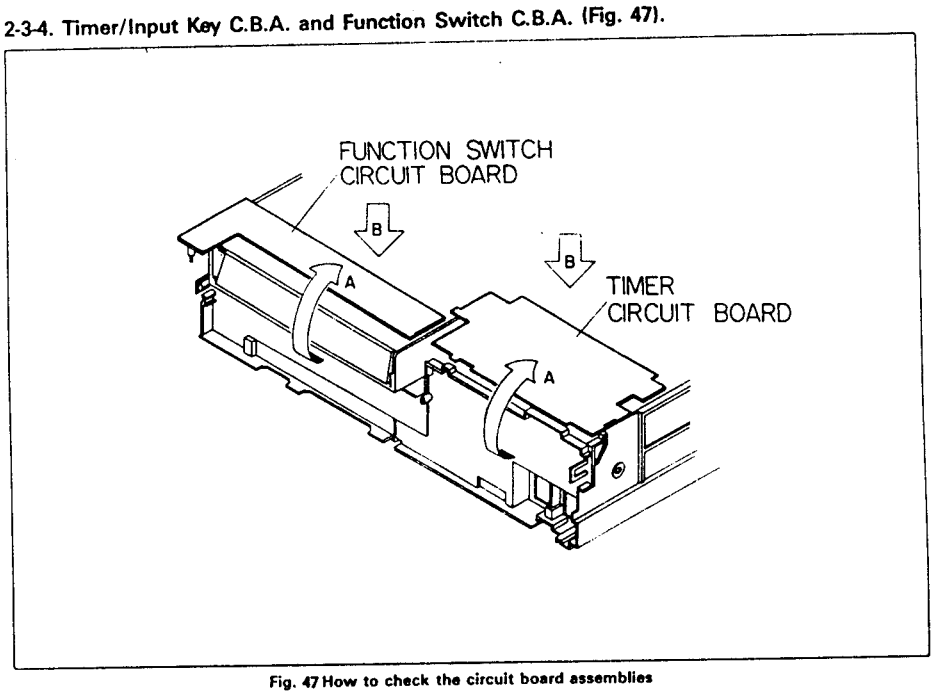


Fig. 47 How to check the circuit board assemblies

1. Remove the timer/input key C.B.A and function switch C.B.A together in the direction of arrow (A), and check from the direction of arrow (B).

Note: Connect the connector (CN601) again to check timer/input key C.B.A and connect this connector as the initial state after checking.

2-35

3-2. Reel Disk Heights (Fig. 1)

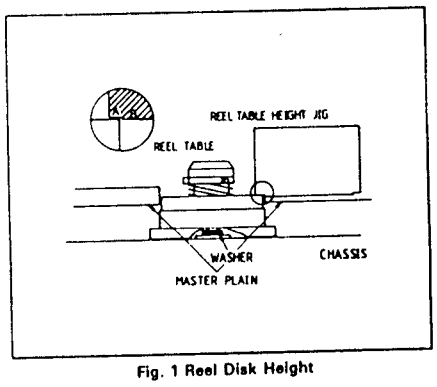


Fig. 1 Reel Disk Height

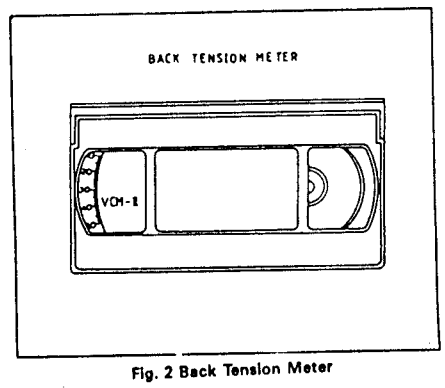


Fig. 2 Back Tension Meter

The height of the supply and take-up turntables should be the same, ±0.2 mm. Turntable heights are adjusted by changing washer plain stack located under each turntable.

Check turntable heights by installing the Master Plain. Set the Reel Disk Height Jig in place and check the height of the supply and take up turntables. (See Fig. 1.)

The size of washer is 0.13 mm (3.2 mm ID). This washer should be used to achieve egual reference heights for both turntables.

Note: For proper height point "A" should slide over the reel disk and point "B" should not. (Fig. 1)

3-3. Back Tension Adjustment (Fig. 2)

When the back tension is properly adjusted, the service test tape recorded under laboratory conditions) will play back with minimum skew error—picture displacement in line following head switching. The tension is set as follows:

1. Load the instrument with the back tension adjustment tape.
2. Place the instrument in the "play" mode.
3. Read the scale on the reel disk (S).
4. This reading should be between 39.5 and 44.5
5. After loosening the screw, move the holder tension spring direction "b" when the tension adjustment tape reads 45 or higher, and to the holder tension spring in direction "a" when it is 39 or lower, and adjust the back tension for a nominal reading of 42 on the scale.
6. Recheck the arm tension position when the back tension is changed greatly (6 or more).

Note: The instrument must be in a horizontal position for this adjustment.

3-4. Arm Tension Position Adjustment (Fig. 3)

1. After removing the housing assembly, the tenth mode of the Deck Joint P.C. Board's wafer CN 205 connect to ground. (Refer to page 3-7).
2. Place the instrument in the "play" mode.
3. After loading is complete, loosen the screw holding the holder tension A and adjust so tht the clearance between the center of roller supply and the pole tension is 1.6 mm $^{+1.0}_{0.5}$ mm.
4. Tighten screw to secure adjustment.

3-2

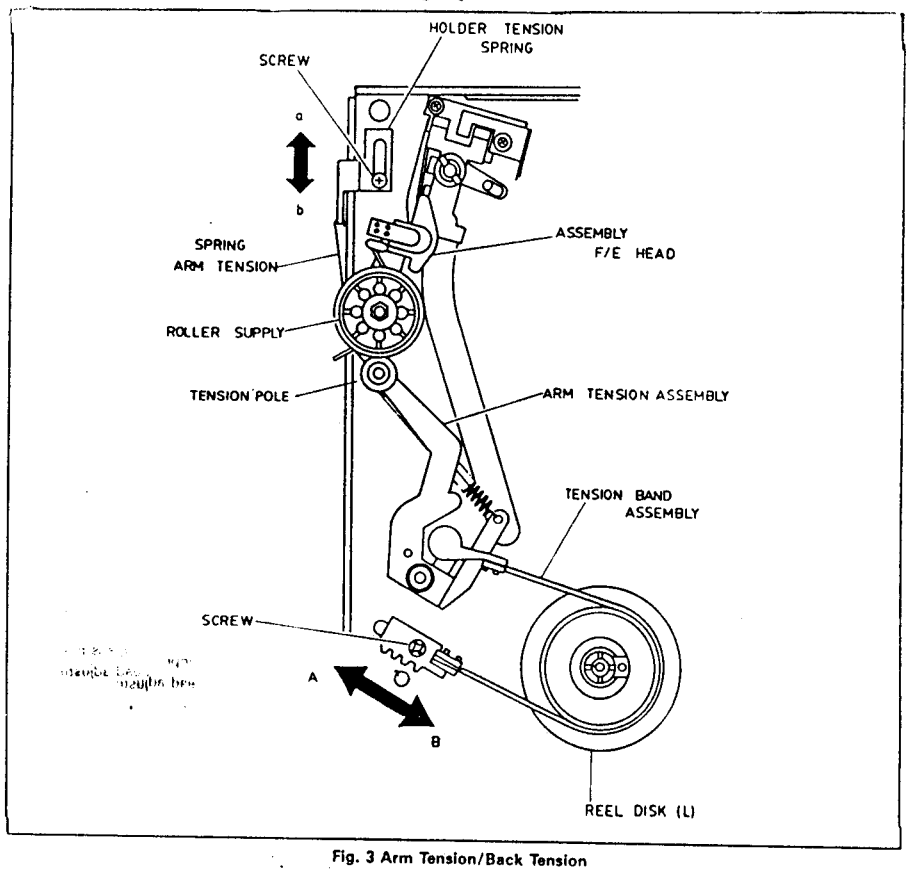


Fig. 3 Arm Tension/Back Tension

3-5. Brake Torque Confirmation (Fig. 4)

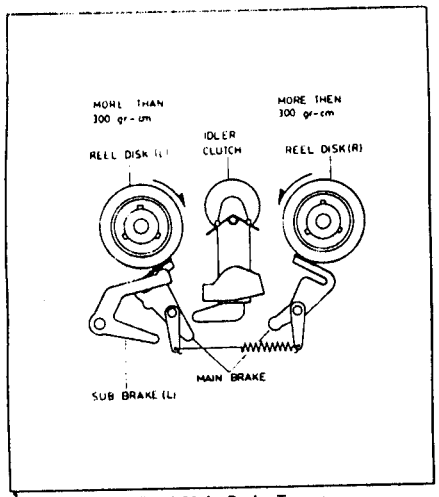


Fig. 4 Main Brake Torque

1. Remove top cover and place instrument in the "stop" mode.
2. Clean the brake surfaces on turntables using "Kim-wipes" and solvent before measuring torque.
3. Attach the torque gauge head to the torque gauge.
4. Place torque gauge on the reel disk (S) turntable.
5. Turn torque gauge in a clockwise direction until the brake begins slipping. Maintain "slipping" rotation and read torque – torque reading should be more than 300 grams – cm.
6. Repeat for the take up side turning the torque gauge counterclockwise – reading should be more than 300 grams-cm.

Note: Brake torque problems can cause tape stretch, broken tape or loose tape wind in cassette.
These symptoms can usually be corrected by properly cleaning. If not replace brakes.

3-6. Play, Fast Forward, Rewind Torque Confirmation

1. Place the cassette holder in the loading state without inserting a cassette tape. (Refer to page 3-7)
2. Attach the torque gauge head to the torque gauge.
3. Place torque gauge on the reel disk (T), operate instrument in the "SP Record" mode -- torque should measure 150-30 grams-cm.
4. Press Fast Forward button -- torque reading should be 600 grams cm minimum.
5. Place torque gauge on the reel disk (S) and operate instrument in the "rewind" mode -- torque reading should be 600 grams-cm minimum.

3-7. Rough Tape Travel Check

Using a blank tape, place the instrument in "play" and note the following

1. The tape should be in full contact with all tape guide posts.
2. The tape should be crease-free with all tape guide posts.
3. The supply roller should be moving freely.
4. The tape should be perpendicular to the longitudinal axis of the heads when crossing the erase head and the A/C head.
5. The tape should be centered top to bottom on the head when crossing the full erase head.
6. The tape should follow the lower-edge guide surface on the D-D drum.

3-8. Creasing or Slack Tape (Fig. 5)

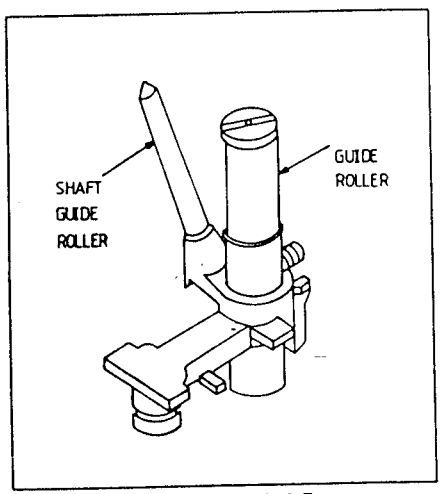


Fig. 5 Creasing or Slack Tape

Load instrument with a blank tape and place in "play" mode. With the tape running, inspect the tape path for creasing or frilling along top or bottom edges of tape. If the tape is creasing or frilling, check the tape as it goes "on" and comes "off" the lower drum.
The tape should follow the lower edge guide surface on the drum. If the tape is high on the guide surface, rough adjust guide rollers to correct this condition (use guide roller adjusting driver)
It will now be necessary to perform guide rollers adjustments and confirm interchangeability.

3-9. Mechanical Interchangeability Considerations

The tape guide adjustments position the tape so that the prerecorded tracks on the test tape align perfectly with the scan of the video head assembly. The mechanical interchangeability adjustment procedures will insure that a tape recorded on one VHS recorder will play back properly on another mechine.

Usually little or no mechanical adjustment is required after routine (head replacement) servicing. Before making any adjustments, perform the following interchangeability confirmation procedure to determine if adjustment is required. If the video heads are replaced, it will also be necessary to confirm the PG shifter adjustment.

If major mechanical servicing was performed (tape guide replacement, etc.) perform "Rough Tape Travel Adjustment" before using test tape.

3-10. Interchangeability Confirmation (Fig. 6)

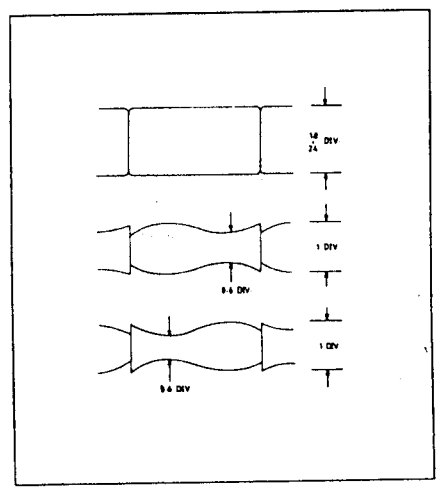


Fig. 6 Interchangeability Confirmation

This confirmation check should be performed after any servicing operation that could adversely affect the tape bath; i.e. D-D drum motor replacement, tape guide replacement, audio/control head replacement, etc.
If unit passes this confirmation check, no tape guide adjustment is required.
Preliminary: This adjustment should be performed after the Tracking Preset adjustment is completed.

1. Connect a channel 1 scope probe (2V/div : 5ms/div) to TP201 (MAIN A PCB.) Trigger the scope on channel 1.
2. Connect the channel 2 scope probe (20mV/div) to 303 (MAIN B PCB; PB FM LEVEL).
3. Play monoscope signal on test tape (Alignment Tape SR12, See Jig List).
4. Adjust tracking control (VR701) for maximum FM envelope amplitude (TP 0303 signal) at center of envelope.
5. Adjust scope vertical gain control so that maximum envelope amplitude is 1.8 – 2.4 graticule divisions.
6. Turn tracking control (VR701) to the left so that maximum envelope amplitude is graticule divisions.
7. Confirm that the minimum envelope amplitude is 0.6 graticule divisions or more at this time.
8. Turn tracking control (VR701) to the right so that maximum envelope amplitude is 1 graticule divisions.
9. Confirm that the minimum envelope amplitude is 0.6 graticule divisions or more at this time.
10. When the confirmation items described above are satisfied, the tape guide adjustment is not necessary. When they are not satisfied, adjust the tape guide.
11. Set tracking control to detent (fixed) position. They adjust Control Track/Audio Head assembly position (X-value) to obtain maximum FM envelope (TP 0303 signal) at the detent position.

Note: If the D-D drum motor assembly has been replaced, perform the following electrical adjustments.
- PG Shifter adjustment
- Record Chroma and Luminance Level adjustments

3-11. Guide Rollers Adjustments (Fig. 7)

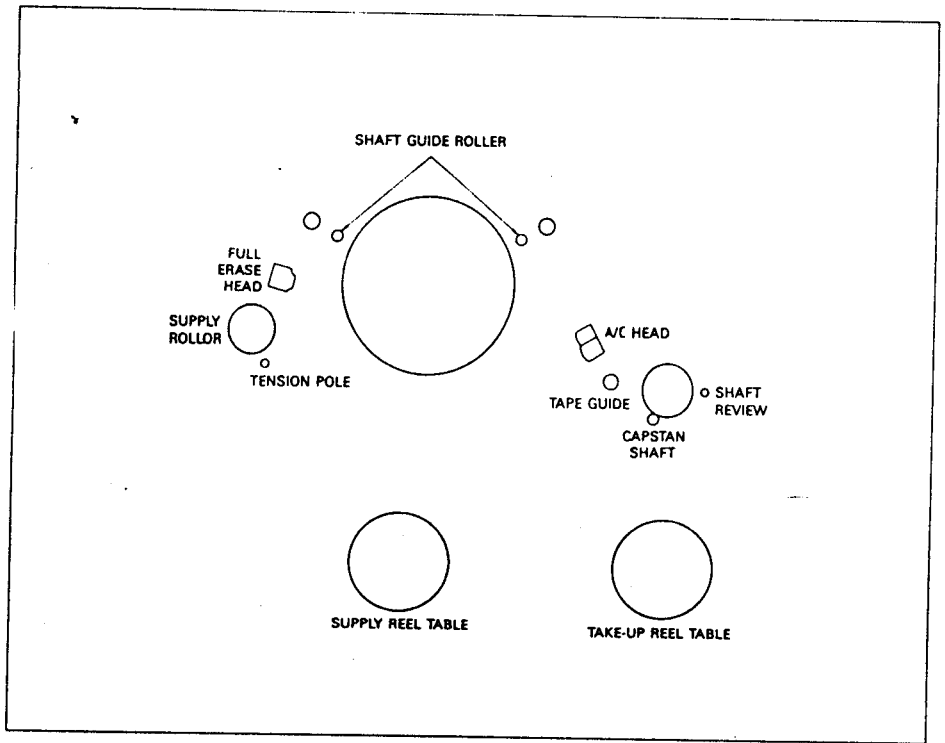


Fig. 7 Tape Guides

1. Connect channel-1 scope probe (2V/div.; 5ms/div.) to TP201. Trigger the scope on channel-1.
2. Connect channel-2 scope probe (10mV/div.) to TP 0303 (Main B PCB; PB FM LEVEL).
3. Set tracking control to detent (fixed) position and play back test tape monoscope signal. (Alignment tape SR1-2. Ref. Jig List). Loosen set screw on pole base of guide rollers.
4. Adjust guide roller down using guide roller adjusting driver (CW) until bottom edge of tape slightly bows the bottom of tape guide.
5. Monitor the head FM envelope at TP 0303
6. Raise (CCW) guide roller (right guide) to obtain maximum amplitude at right side of head envelope.
7. Raise (CCW) guide roller (lift guide) to obtain maximum amplitude at left side of Head envelope.
8. Adjust tracking control (VR701) for best envelope.
9. Touch up guide rollers for maximum amplitude flat envelope. Tighten set screw at pole base of guide rollers.
10. Adjust control head position (if necessary) to move the best envelope condition to the tracking control detent position.

Note: In the event that correct head envelope is not obtainable, check Audio/Control (A/C) head adjustments.

3-12. Audio/Control Head (Height/Tilt/Azimuth) (Fig. 8)

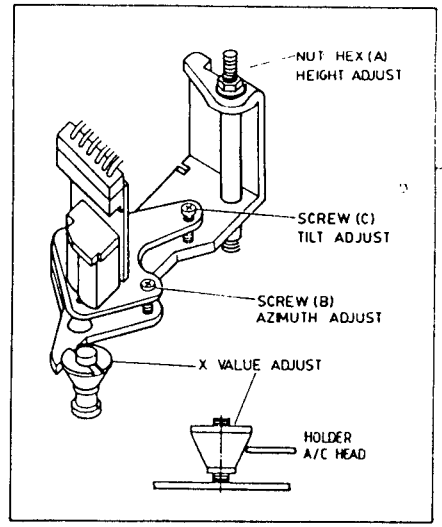


Fig. 8 Audio/Control Head Assembly

1. Connect a scope probe (0.5V/div.; 1ms/div.) to TP0502 (Use audio out jack) located on the main circuit board.
2. Play back a 1-KHz (color bars) audio signal on test tape (Alignment Tape SR 2-2. See Jig List)
3. Alternately adjust height nut (A) and tilt screw (C) for maximum output.
4. Play back a 6-KHz audio signal on test tape. (Alignment Tape SR 1-2. See Jig List)
5. Adjust azimuth screw (B) for maximum output.
6. Repeat steps 3 and 5 for maximum 6-KHz and 1-KHz output.
7. Lock the A/C Head (A) with paint.

3-13 Audio/Control Head (AC Head Horizontal Position) (Fig. 8)

This adjustment establishes proper tape tracking when the tracking control (VR701) is in its detent position.

Note: This adjutment should only be made after the tracking adjustment is completed. (See Electrical Adjustments.)

1. Connect a scope probe (10mV/div.; 5ms/div.) to TP 0303 (MAIN B PCB; PB FM LEVEL).
2. Set tracking control (VR701) to the detent (fixed) position.
3. Play back monoscope signal on test tape. (Alignment tape SR 1-2. See Jig List)
4. Carefully move the A/C head base plate in either direction for maximum head envelope output by adjusting the X value screw.

3-14. Operating the VCR without Inserting a Cassette Tape (Fig. 9)

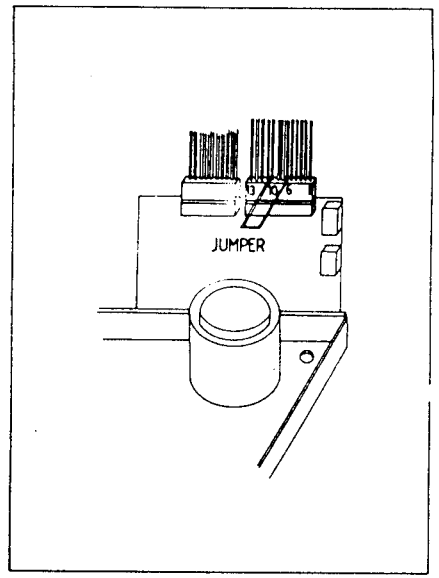


Fig. 9

1. Remove the top cover.
2. Remove the housing assembly (Fig. 12)
3. Plug the power cord of the VCR into the AC outlet.
4. Turn "on" the power switch of the VCR.
5. Connect a jumper between pins 6 and 10 of connector.
6. The above procedure enables the VCR to operate without loading a cassette tape.

Note: Operate the play or record button in order to place the VCR in the record mode or in the play mode.

4. ELECTRICAL ADJUSTMENTS

4-1. Circuit Board Location and Identification (Fig. 1, 2)

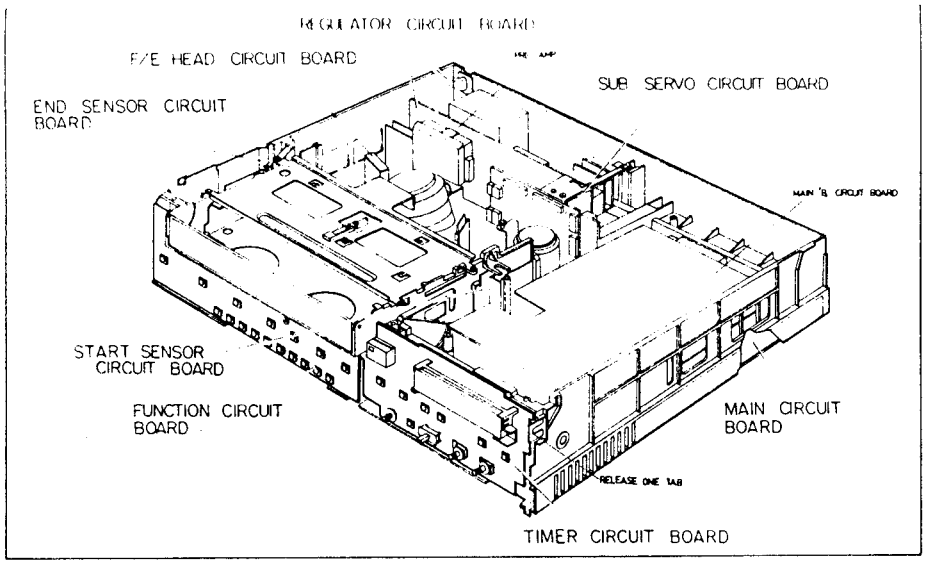


Fig. 1 Top View

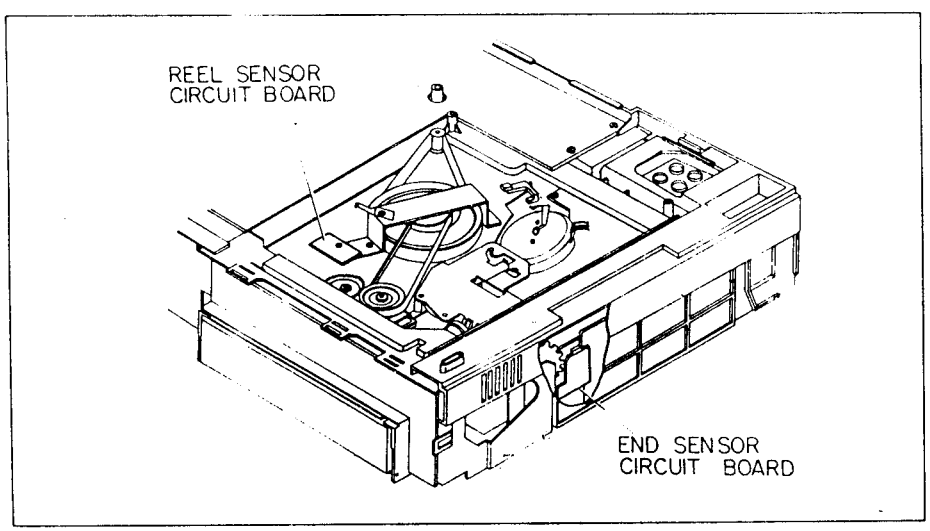


Fig. 2 Bottom View

4-2. SERVO SECTION in Main. A PCB

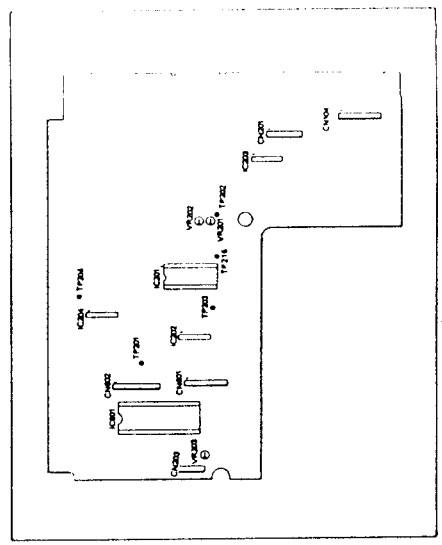


Fig. 3 SERVO SECTION in Main A PCB-Component Side

4-2-1. PG (Pulse Generator) Shifter Adjustment

Equipment	Oscilloscope	
Test points	TP201 (SW 25Hz)	Main. A
	TP0302 (Video Output Signal)	Main. A
Adjust	VR201 (PG-1)	Main. A
	VR202 (PG-2)	Main. A

The Pulse Generator (PG) Shifter determines the video head switching point during playback. Misadjustment of the PG Shifter may cause head switching noise in the picture and/or vertical jitter.

1) Load the instrument with an alignment tape and playback the color bar signal or monoscope signal. (Alignment Tape SR2-2).
2) Connect a channel-1 scope probe (1V/div.; 50μs/div.) to TP201. Trigger the scope on channel-1.
3) Connect the channel-2 scope probe (1V/div.) to TP0302.
4) Set the scope to (+) slope and adjust the PG-1 shifter control (VR201) so that the trailing edge of the SW 25Hz pulse is placed 6.5H±0.5H (horizontal) lines before the start of vertical sync pulse.
5) And then, set the scope to (−) slope and adjust the PG-2 Shifter control (VR202) as in the PG-1. (Fig. 4)

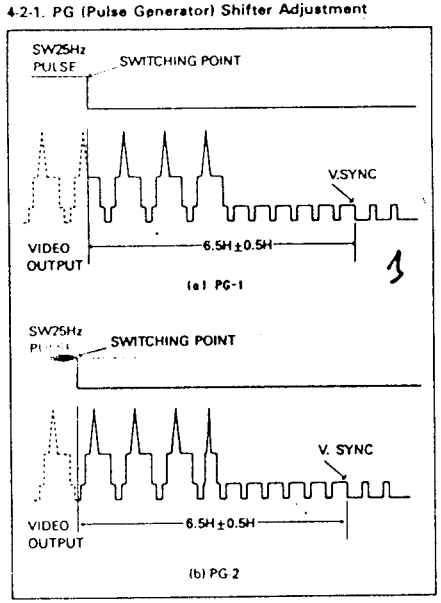


Fig. 4 PG Shifter

4-2-2. Tracking Preset Adjustment

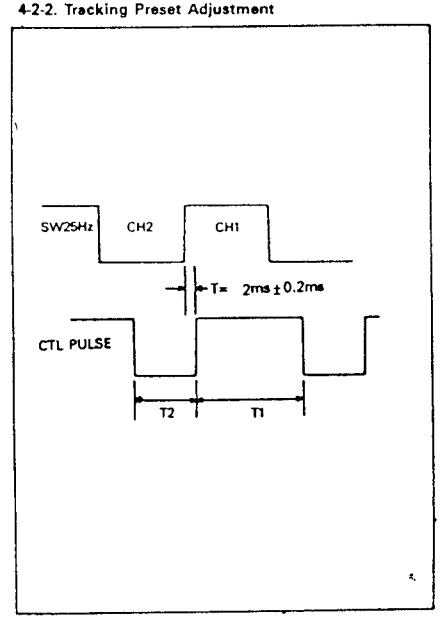


Fig. 5 Tracking Preset

Equipment: Oscilloscope
Test Points: TP201 (SW 25Hz) Main. A
TP215 (CTL Pulse) Main. A
Adjust: VR203 (Tracking Preset) Main. A

This adjustment sets the optimum tracking during playback of a tape recorded on this instrument so that it occurs at the detented position of the Tracking control (VR701).

1) Load the instrument with an alignment tape and playback the color bar signal. (Alignment Tape SR1-2).
2) Connect a channel-1 scope probe (2V/div.; 5ms/div.) to TP201. Trigger the scope on channel-1.
3) Connect the channel-2 scope probe (2V/div.) to TP215.
4) Set the Tracking Control (VR701) on the front panel to the detented position and adjust the Tracking Preset Control (VR203) to align the pulse width T=2.0ms+0.2ms. (Fig. 5)

Note: Make sure that T1 > T2. If not, change the order of the CTL head wire for the correct SERVO adjustment.

4-2-3. Vertical Lock Pulse Adjustment

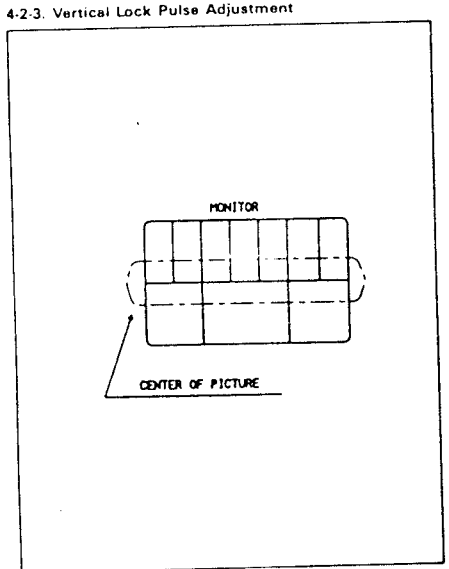


Fig. 6 Vertical Lock Pulse

Equipment: TV monitor
Adjust: VR702 Timer

This adjustment is to prevent vertically unstable picture in Pause mode.

1) Apply a PAL color bar signal to the Video Input jack (BNC) on the rear panel.
2) Rocate the input selected S/W to AUX.
3) Insert a biank tape and make a recording for a few minutes.
4) Playback in PAUSE/STILL mode.
5) Adjust the V-Lock Control VR702 so that the center of picture is most stable. (Fig. 6).

4-3. AUDIO SECTION in Main. B PCB

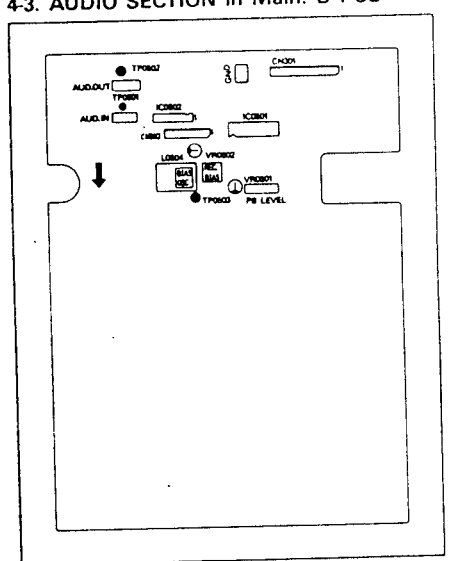


Fig. 7 AUDIO SECTION in Main PCB-Component Side

4-3-1. Audio PB Level Adjustment

Equipment: AC Voltmeter
Test Points: TP0502 (Audio Output) Main. B
Adjust: VR0401 (Audio PB Level Control) Main. B

This adjustment sets the output level of the audio signal to the specified level.

1) Connect a AC Voltmeter (0dB=1 Vrms) to TP0502.
2) Load the instrument with an alignment tape and playback the 1KHz audio signal. (Alignment Tape SR2-2).
3) Adjust the Audio Playback Level Control (VR0501) for 500mVrms.

4-3-2. Audio Bias Level Adjustment

Equipment: Oscilloscope
Test Points: TP0503 (Rec Bias Level) Main. B
Adjust: VR0502 (Audio Bias Level Control) Main. B

This adjustment optimizes the audio record bias. When the audio record bias is too low, high frequencies are increased resulting in distortion. When the level is too high, high frequencies are attenuated.

1) Connect a channel-1 scope probe (10V/div.; 10us/div.) to TP0503.
2) Load the instrument with a blank tape and place in the SP record mode with no signal.
3) Adjust the Audio Bias Level Control (VR0502) for 40 Vp-p ± 1Vp-p.

4-4. LUMI/CHROMA SECTION in Main B.

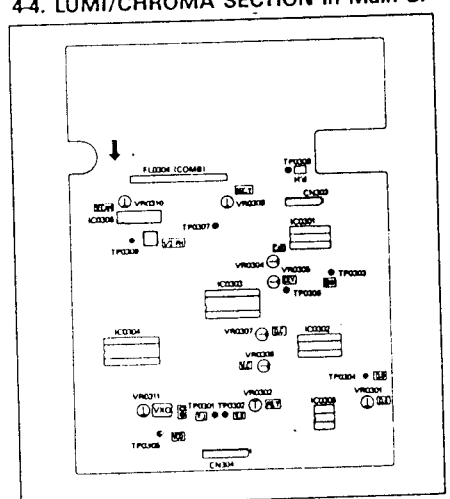


Fig. 8 LUMI CHROMA SECTION in Main. B Component Side

4-4-1. PB Luminance Level Adjustment

Equipment: Oscilloscope
Test Point: TP0302 (Video Output Level) Main. B
Adjust: VR0302 (PB Luminance Level Control) Main. B

This adjustment sets the output level of the video signal to the specified level.

1) Connect a channel-1 scope probe (0.5V.; 10μs/div.) to TP0302.
2) Load the instrument with an alignment tape and playback the color bar signal. (Alignment Tape SR2-2).
3) Adjust the PB Luminance Level Control (VR0302) for 2Vp-p.

4-4-2. CCD IN (Clamp) Adjustment

Equipment: Oscilloscope
Test Point: TP0304 (CCD Video Level) Main. B
Adjust: VR0301 (CCD Level Control) Main. B

This adjustment is for the compensation of the Drop Out. When there is the Drop Out, if the CCD output level is very low, the Black Trigger occurs.
If the level is very high, the White Trigger occurs.

1) Connect a channel-1 scope probe (0.1V/div.) to TP0304.
2) Load the instrument with an alignment tape and playback the color bar signal. (Alignment Tape SR2-2).
3) Adjust the CCD IN Control (VR0301) for 0.6Vp-p.

4-4-3. Sub Carrier Frequency (4.43 MHz) Adjustment

Equipment: Frequency Counter
Test Point: TP0305 (VXO OUT) Main. B
Adjust: VR0311 (Sub Carrier Frequency) Main. B

This adjustment sets the 4.43MHz VXO oscillation frequency accurately.
When this adjustment is incomplete, 1H delay of the video signal is disabled and the S/N deteriorates.

1) Connect a frequency counter to TP0305.
2) Load the instrument with an alignment tape (Alignment Tape SR2-2) and play it back.
3) Adjust the Sub Carrier Frequency Control (VR0311) so that the frequency reads 4.433619MHz ± 10Hz.

4-4-4. White & Dark Clip Adjustment

Equipment: PAL TV TEST SIGNAL GENERATOR
Oscilloscope
Test Point: TP0306 (Video White/Dark Clip Level) Main. B
Adjust: VR0306 (White Clip) Main. B
VR0307 (Dark Clip) Main. B

This adjustment is used to prevent Overmodulation. If the adjustment is over the accurate point, the White/Dark Clip occurs in playback and the S/N ratio decreases for the AM elements intermixed.

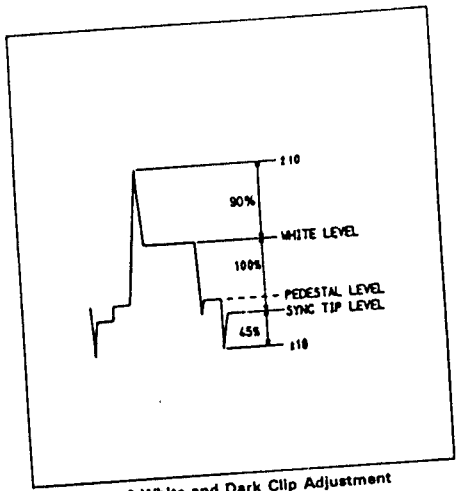


Fig. 9 White and Dark Clip Adjustment

1) Apply a PAL color bar signal to the video input jack on the rear panel.
2) Connect a channel-1 scope probe (0.2V/div.; 20μs/div.) to TP0306.
3) Insert a blank tape and make a recording.
4) Adjust the White Clip Control (VR0306) and Dark Clip Control (VR0307) so that the overshoot and undershoot are as shown in Fig. 9.

4-4-5. FM Carrier & Deviation Adjustment

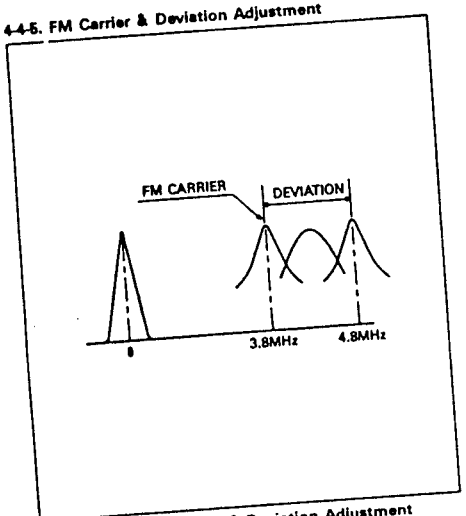


Fig. 10 FM Carrier & Deviation Adjustment

Equipment:	Tracking Scope	Main. B
Test Point:	TP0307 (FM Output)	Main. B
Adjust:	VR0304 (FM Carrier)	Main. B
	VR0305 (Deviation)	

This adjustment sets the frequencies of the FM Carrier and Deviation.
If the Deviation is less than 1MHz, the Video output level is low. When the Deviation is more than 1MHz, the output level is high and there is the Overmodulation, So the screen has the White/Dark Trigger and the S/N ratio is not good.

1) Apply a 100% White signal to the video input jack on the rear panel.
2) Rocate the input selected S/W to AUX.
3) Connect a Tracking Scope to TP0307.
4) Insert a blank tape and make a recording.
5) Adjust the FM Carrier Control (VR0304) so that the frequency is 3.8MHz±0.1MHz.
6) And then adjust the Deviation Control (VR0305) so that the frequency is 4.8MHz±0.1MHz for the 1MHz deviation. (See Fig. 10).

4-4-6. REC FM Current Level Adjustment

Equipment:	Oscilloscope	PRE AMP
Test Point:	TP0310	Main. B
Adjustment:	VR0308	

1) Apply a PAL color bar signal to the video input jack to the rear panel.
2) Rocate the input selected S/W to AUX.
3) Connect a channel-1 scope probe (1V/div. 20ms/Div) to TP0310.
4) Insert a blank tape and make a recording.
5) Adjust the FM current control VR0308 so that the current is 5Vp-p.

4-4-7. SECAM Detector Adjustment

Equipment:	Oscilloscope	Main. B
Test Point:	TP0309	Main. B
Adjustment:	VR0310	

1) Apply a SECAM signal to the video input jack to the rear panel
2) Rocate the input selected S/W to AUX.
3) Connect a channel-1 scope probe (1V/Div) to TP0309
4) Insert a blank tape and make a recording.
5) Adjust the output to $5V_{P\text{-}P}$.

4-5. TUNER/DEMODULATOR SECTION in Main A PCB.

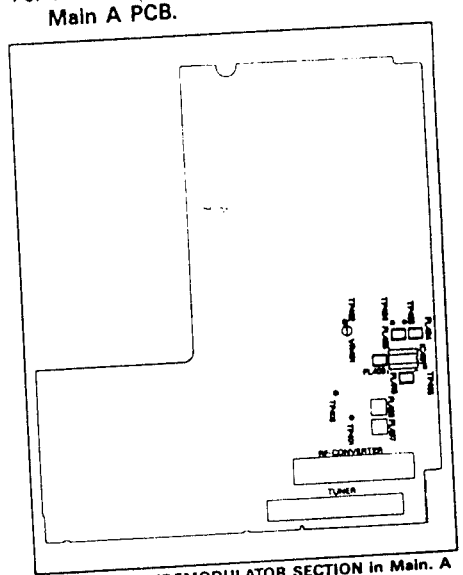


Fig. 11 TUNER/DEMODULATOR SECTION in Main. A PCB-Component Side

4-5-1. TRAP Adjustment

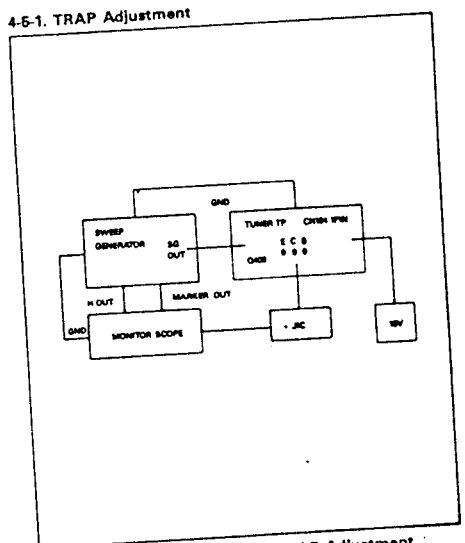


Fig. 12 Composition for TRAP Adjustment

Equipment:	Sweep Generator
Test points:	Tuner Q406 collector
Adjustment:	FL408, FL407

1) Place the instrument in the E-E Mode.
2) Remove a connector CN101 and connect a DC bias supply of 15V to the pin 1 of a connector CN104 on the Main. A PCB.
3) Connect the Sweep Generator output to tuner TP within the tuner unit. (Fig. 12)
4) Connect a jig input to the collector of Q406
5) Adjust the trap (FL408, FL407) in the Tuner unit shown in Fig 13.

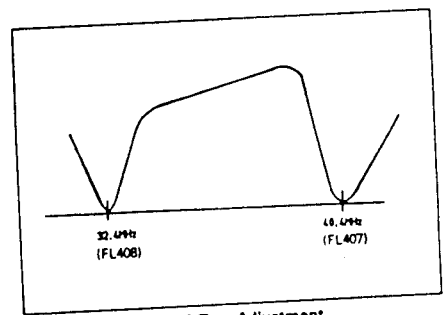


Fig. 13 Trap Adjustment

4-5-2. VIF Adjustment

Equipment:	Sweep Generator	
	Monitorscope	
Test Point:	TP406 (Video output)	Main. A
Adjust:	FL405 (VIF-DET TANK)	Main. A

This adjustment makes the sync detecting reference signal tuning circuit of the picture-IF circuit resonate with 38.9MHz and suppresses mixture of the sound-IF signal.

1) Place the instrument in the E-E mode.
2) Remove a connector CN101 and connect a DC bias supply of 15V, 12V to the pin 1,2 of a connector CN104 on the Main. A PCB.
3) Connect a DC bias supply of 5V to TP405.
4) Connect the Sweep Generator Output to tuner TP within the Tuner unit. (Fig. 14)
5) Connect a Monitor Scope Input to TP406.
6) Connect a 100Ω damping resistor between TP403 and TP404.
7) Adjust the Core (FL410) in the Tuner section shown in Fig. 15.
8) Remove a 100Ω damping resistor.
9) Adjust the VIF Control (FL405) for maximum detection of 38.9MHz maker. (Fig. 16)

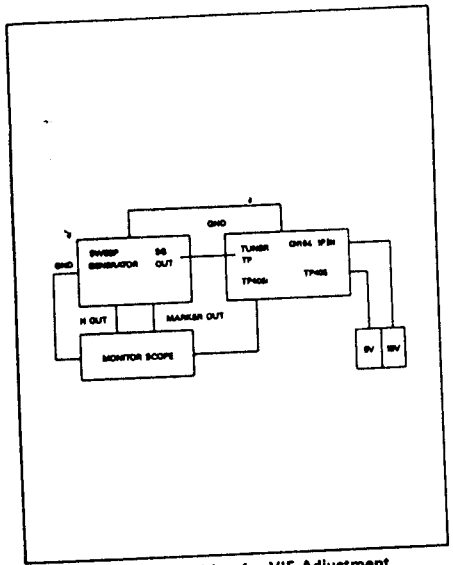


Fig. 14 Composition for VIF Adjustment

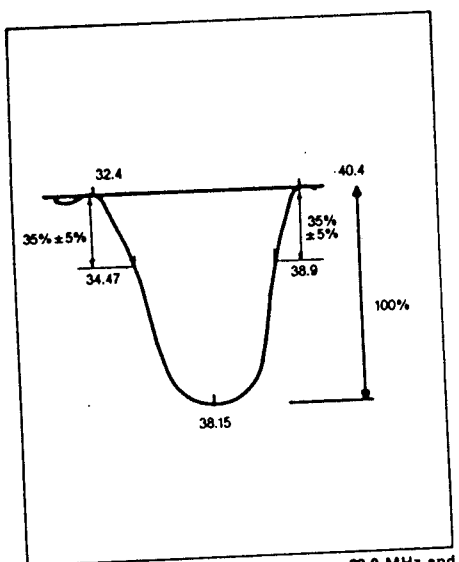


Fig. 15 I llustration for balance between 38.9 MHz and color signal

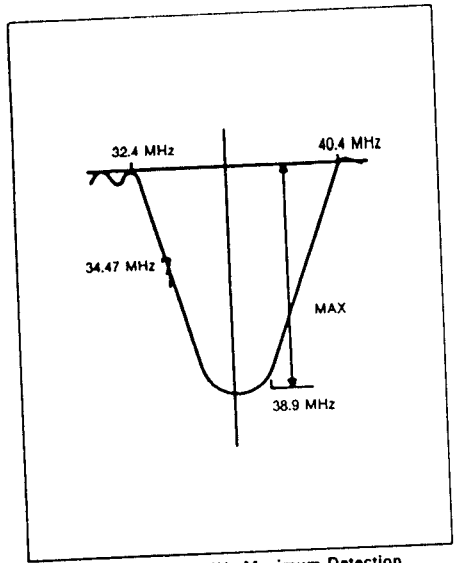


Fig. 16 VIF 38.9MHz Maximum Detection

4-5-3. AFT Adjustment

Equipment: Sweep generator, Monitorscope
Test point: TP402 — Main. A
Adjustment: FL404 — Main. A

1) After adjustment of VIF, connect the monitorscope input to TP402.
2) Adjust the AFT (FL404) in the Tuner unit shown in Fig. 17

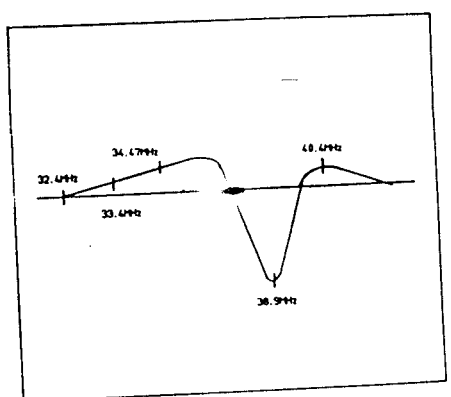


Fig. 17 AFT Adjustment

4-5-4. SIF Adjustment

Equipment: Oscilloscope
Test points: TP0501 (Audio Input) — Main. B
Adjust: FL403 (5.5MHz Tuning Coil) — Main. A

This adjustment suppresses the audio distortion and optimizes the linearity response of audio. Misadjustment of the SIF may cause the audio buzz by the increasing of the THD (Total Harmonic Distortion).

1) Apply a 1KHz audio signal to the RF Input Terminal on the rear panel.
2) Connect a channel-1 scope probe (0.2V/div.) to TP0501.
3) Adjust the SIF Control (FL403) for 1.0Vp-p.

4-5-5. RF AGC Adjustment

Equipment: TV CHANNEL SIGNAL GENERATOR
Oscilloscope or DC Voltmeter
Test Point: TP401 (Tuner RF AGC Input) — Main. A
Adjust: VR401 (RF AGC Control) — Main. A

This adjustment determines the point where the AGC is activated.

1) Apply a PAL color bar signal to the Video Input Terminal of the TV Channel Signal Generator. (Fig. 18)
2) Set the Channel Selector to CH2 (52.25 MHz)
3) Apply the Output of the Generator to the RF IN Terminal on the rear panel. Using the Attenuator, adjust the input signal level for 70dBμ measured at the RF IN Terminal. (Fig. 18).
4) Connect a channel-1 scope probe (1V/div.) to TP401.
5) Turn the VCR power on and select TV Mode with SW709.
6) Set the channel on the front panel to CH 2.
7) Adjust the RF AGC Control (VR401) for 4.7V±0.1V.
8) After adjusting the input level of the RF IN terminal for 60dBμ, check the condition of screen. If there is some Noise, adjust VR401 so that the Noise disappears.
9) And adjust the input level of the RF IN terminal for 100dBμ, then check the condition of screen. If there are some Saturations (unstable picture or color, etc), adjust VR401 again so that the Saturation phenomiron disappear.

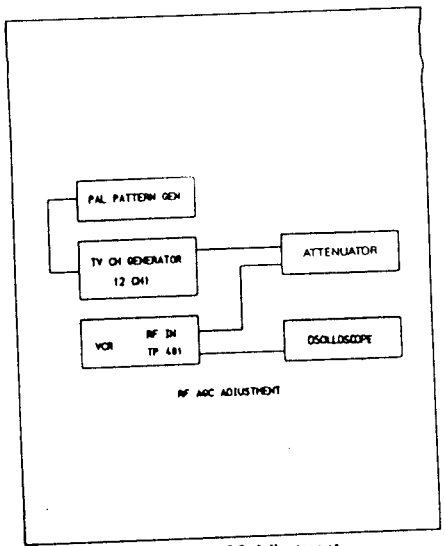
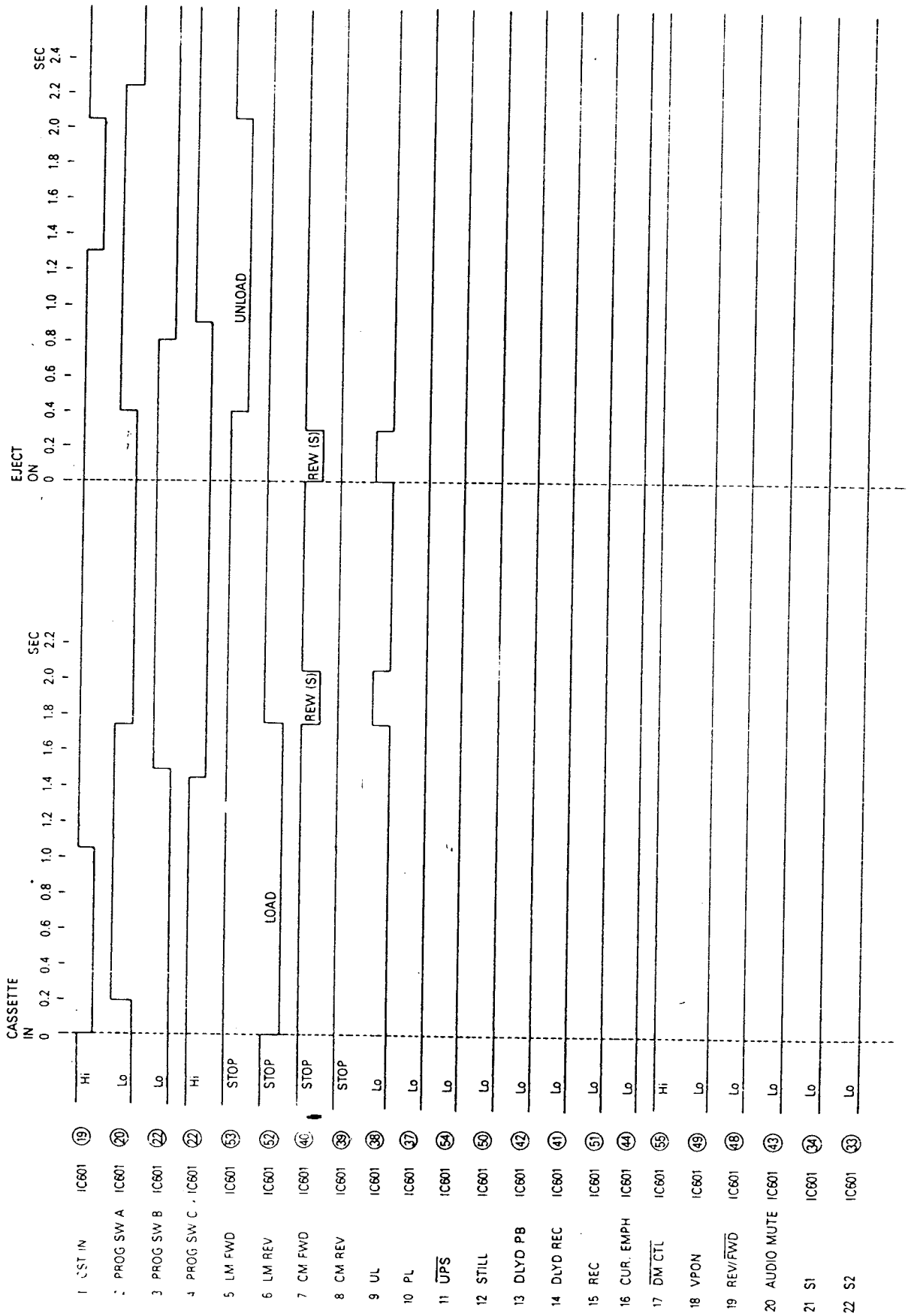


Fig. 18 RF AGC Adjustment

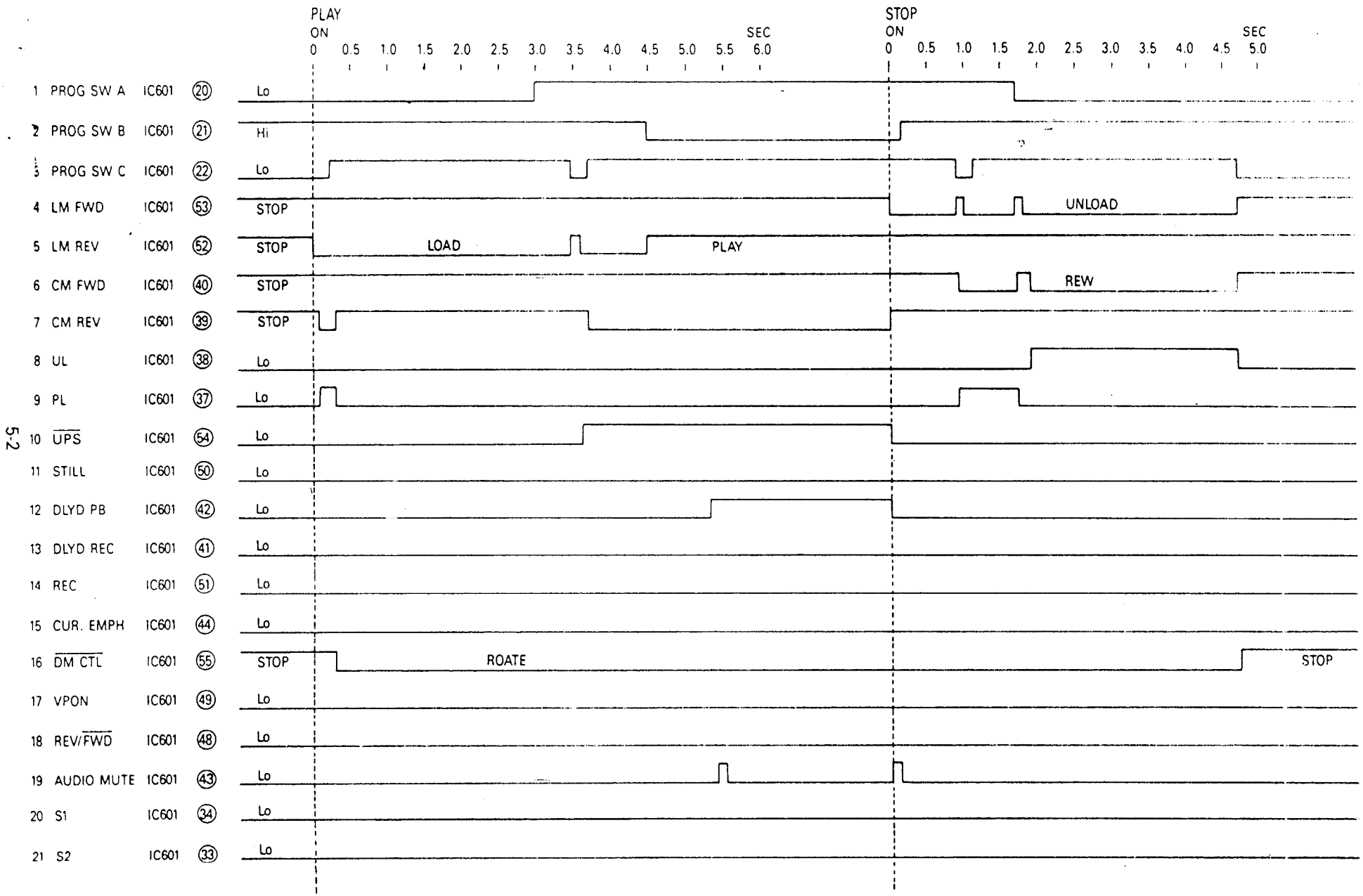
5. TIMING CHART/TROUBLESHOOTING GUIDER

5-1. Timing chart

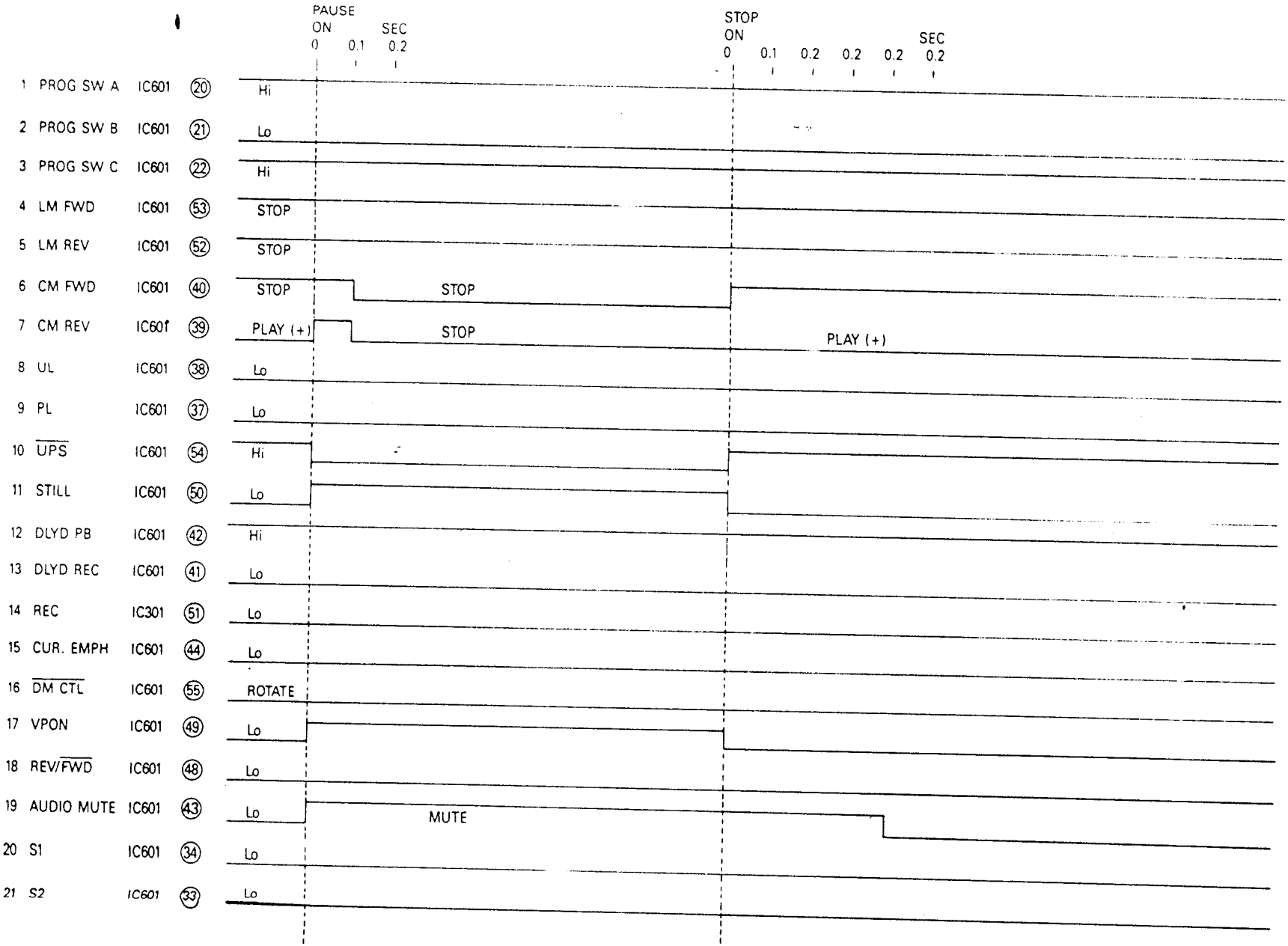
5-1-1. CASSETTE LOAD/UNLOAD


CASSETTE IN
EJECT ON
SEC
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4
LOAD
UNLOAD
REW (S)
REW (S)
1 CST IN IC601 19 Hi
2 PROG SW A IC601 20 Lo
3 PROG SW B IC601 22 Lo
4 PROG SW C IC601 22 Hi
5 LM FWD IC601 53 STOP
6 LM REV IC601 52 STOP
7 CM FWD IC601 40 STOP
8 CM REV IC601 39 STOP
9 UL IC601 38 Lo
10 PL IC601 37 Lo
11 UPS IC601 54 Lo
12 STILL IC601 50 Lo
13 DLYD PB IC601 42 Lo
14 DLYD REC IC601 41 Lo
15 REC IC601 51 Lo
16 CUR. EMPH IC601 44 Lo
17 DM CTL IC601 55 Hi
18 VPON IC601 49 Lo
19 REV/FWD IC601 48 Lo
20 AUDIO MUTE IC601 43 Lo
21 S1 IC601 24 Lo
22 S2 IC601 33 Lo

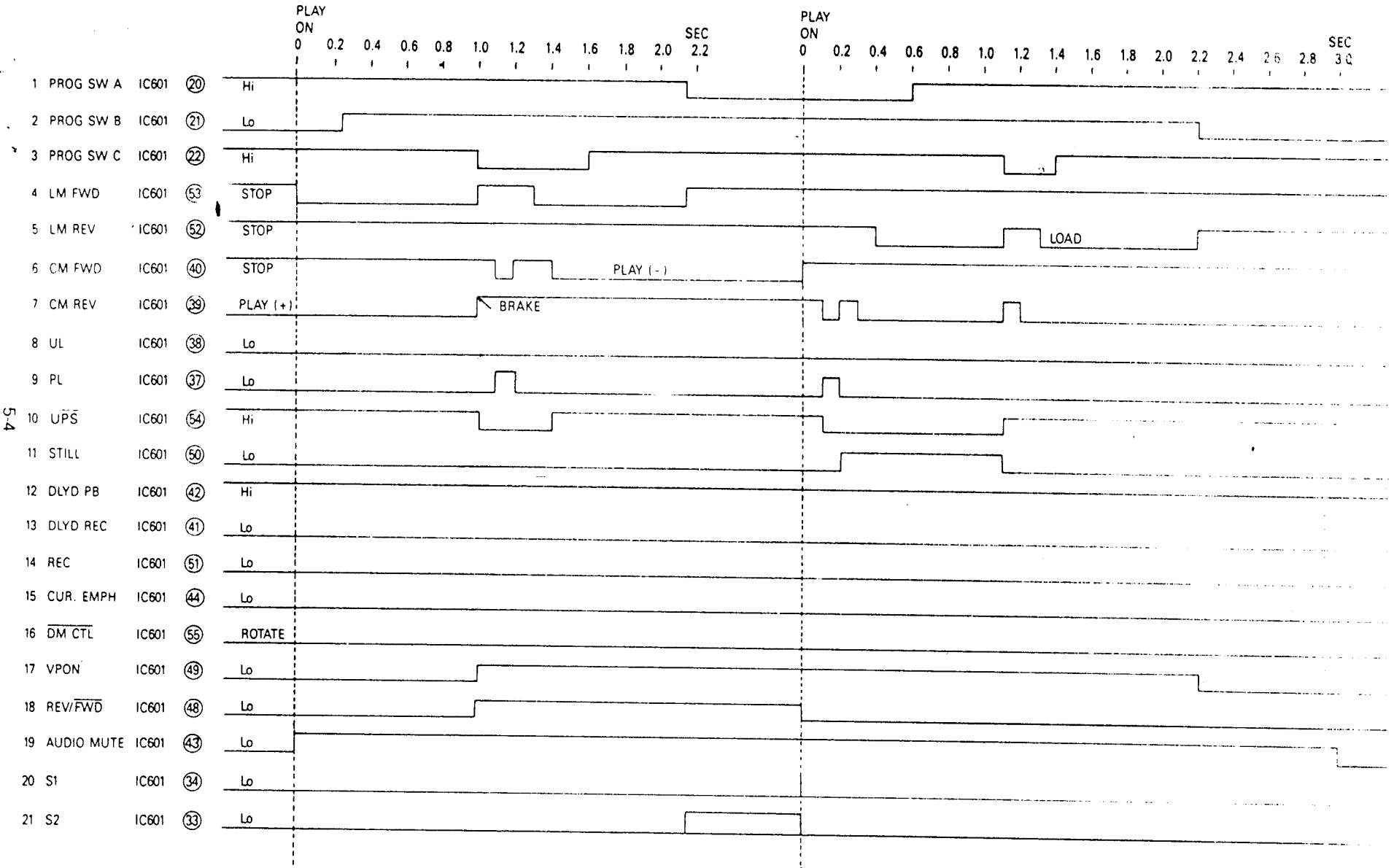
5-1-2. STOP/PLAY/STOP


PLAY ON
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 SEC
STOP ON
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 SEC
1 PROG SW A IC601 (20) Lo
2 PROG SW B IC601 (21) Hi
3 PROG SW C IC601 (22) Lo
4 LM FWD IC601 (53) STOP UNLOAD
5 LM REV IC601 (52) STOP LOAD PLAY
6 CM FWD IC601 (40) STOP REW
7 CM REV IC601 (39) STOP
8 UL IC601 (38) Lo
9 PL IC601 (37) Lo
10 UPS IC601 (54) Lo
11 STILL IC601 (50) Lo
12 DLYD PB IC601 (42) Lo
13 DLYD REC IC601 (41) Lo
14 REC IC601 (51) Lo
15 CUR. EMPH IC601 (44) Lo
16 DM CTL IC601 (55) STOP ROATE STOP
17 VPON IC601 (49) Lo
18 REV/FWD IC601 (48) Lo
19 AUDIO MUTE IC601 (43) Lo
20 S1 IC601 (34) Lo
21 S2 IC601 (33) Lo

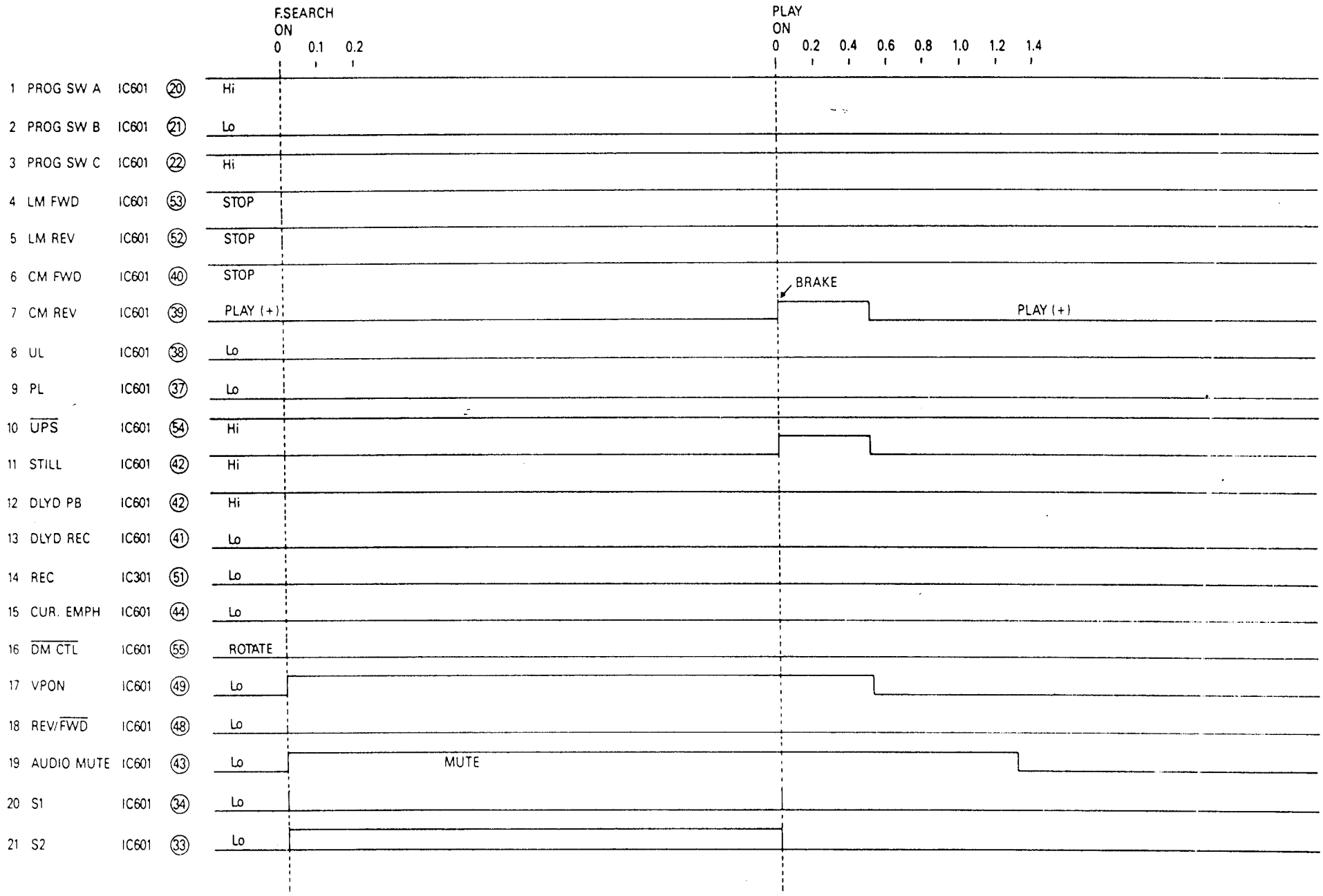
5-1-3. PLAY/PAUSE/PLAY


PAUSE ON
0 0.1 SEC 0.2
STOP ON
0 0.1 0.2 0.2 0.2 SEC 0.2
1 PROG SW A IC601 (20) Hi
2 PROG SW B IC601 (21) Lo
3 PROG SW C IC601 (22) Hi
4 LM FWD IC601 (53) STOP
5 LM REV IC601 (52) STOP
6 CM FWD IC601 (40) STOP STOP
7 CM REV IC601 (39) PLAY (+) STOP PLAY (+)
8 UL IC601 (38) Lo
9 PL IC601 (37) Lo
10 UPS IC601 (54) Hi
11 STILL IC601 (50) Lo
12 DLYD PB IC601 (42) Hi
13 DLYD REC IC601 (41) Lo
14 REC IC301 (51) Lo
15 CUR. EMPH IC601 (44) Lo
16 DM CTL IC601 (55) ROTATE
17 VPON IC601 (49) Lo
18 REV/FWD IC601 (48) Lo
19 AUDIO MUTE IC601 (43) Lo MUTE
20 S1 IC601 (34) Lo
21 S2 IC601 (33) Lo

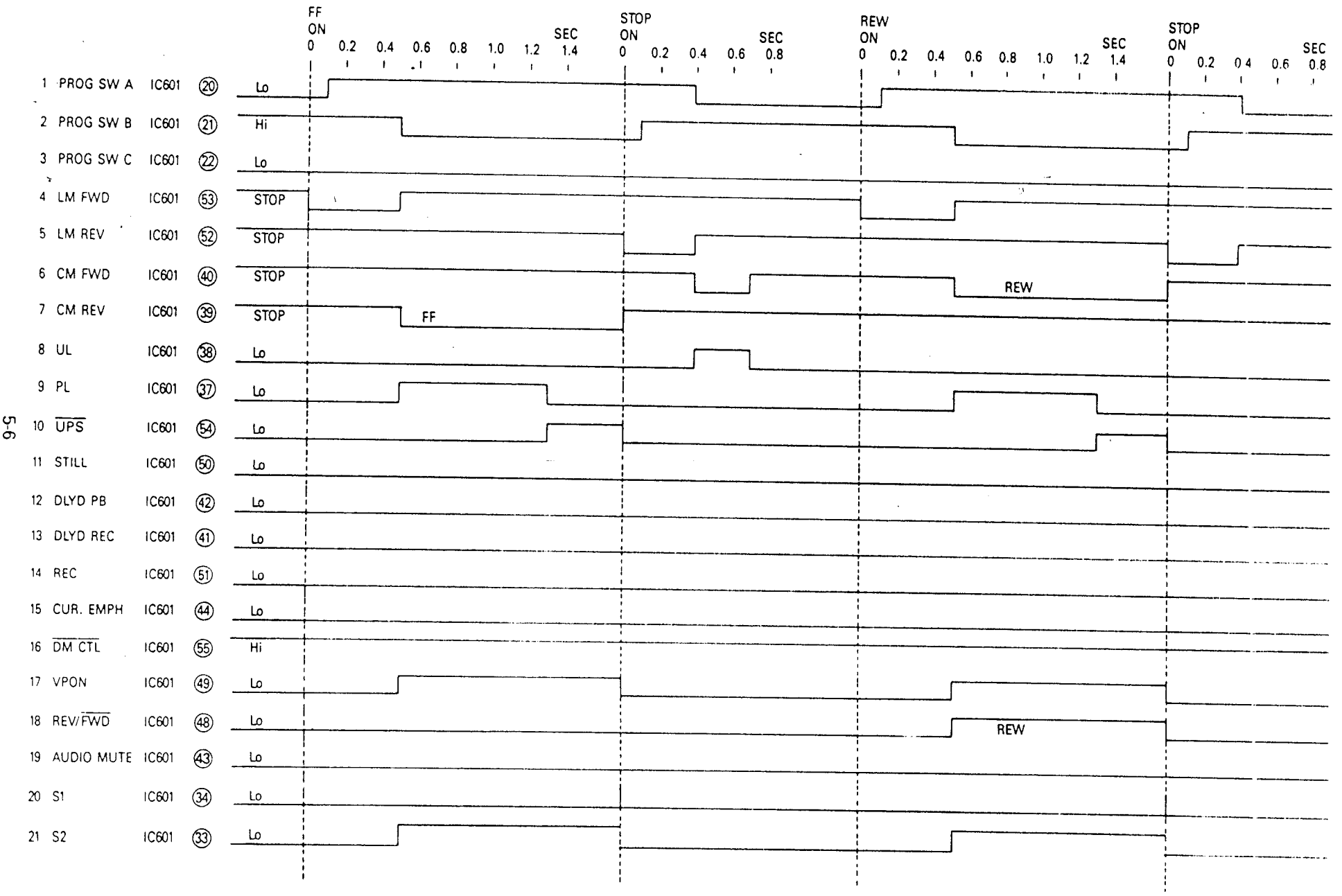
5-1-4. PLAY/R.SEARCH/PLAY


PLAY ON
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 SEC 2.2
PLAY ON
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 SEC 3.0
1 PROG SW A IC601 (20) Hi
2 PROG SW B IC601 (21) Lo
3 PROG SW C IC601 (22) Hi
4 LM FWD IC601 (53) STOP
5 LM REV IC601 (52) STOP
LOAD
6 CM FWD IC601 (40) STOP
PLAY (-)
7 CM REV IC601 (39) PLAY (+)
BRAKE
8 UL IC601 (38) Lo
9 PL IC601 (37) Lo
10 UPS IC601 (54) Hi
11 STILL IC601 (50) Lo
12 DLYD PB IC601 (42) Hi
13 DLYD REC IC601 (41) Lo
14 REC IC601 (51) Lo
15 CUR. EMPH IC601 (44) Lo
16 DM CTL IC601 (55) ROTATE
17 VPON IC601 (49) Lo
18 REV/FWD IC601 (48) Lo
19 AUDIO MUTE IC601 (43) Lo
20 S1 IC601 (34) Lo
21 S2 IC601 (33) Lo

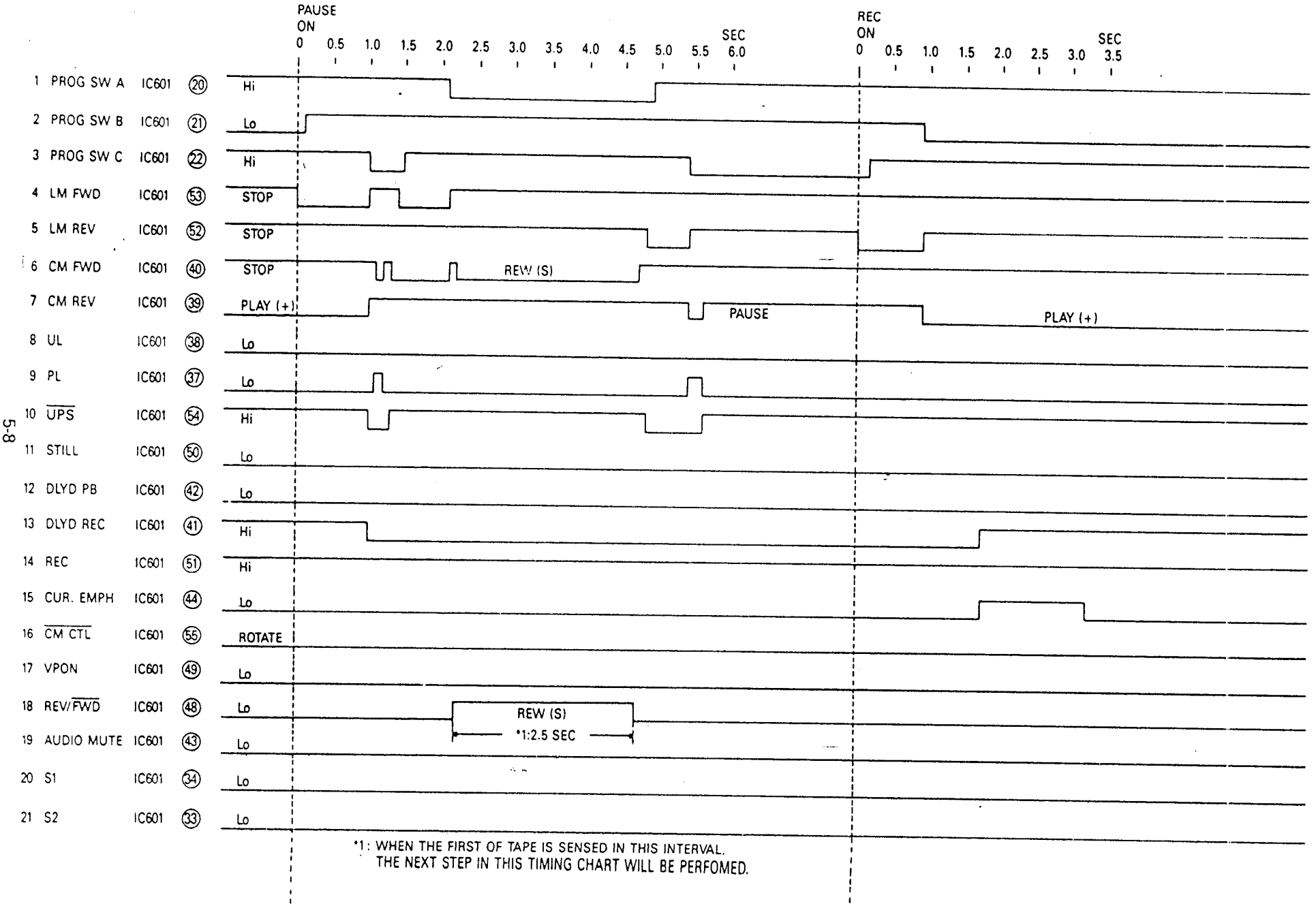
5-1-5. PLAY/F. SEARCH/PLAY


F.SEARCH ON
0 0.1 0.2
PLAY ON
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4
1 PROG SW A IC601 (20) Hi
2 PROG SW B IC601 (21) Lo
3 PROG SW C IC601 (22) Hi
4 LM FWD IC601 (53) STOP
5 LM REV IC601 (52) STOP
6 CM FWD IC601 (40) STOP
7 CM REV IC601 (39) PLAY (+)
BRAKE
PLAY (+)
8 UL IC601 (38) Lo
9 PL IC601 (37) Lo
10 UPS IC601 (54) Hi
11 STILL IC601 (42) Hi
12 DLYD PB IC601 (42) Hi
13 DLYD REC IC601 (41) Lo
14 REC IC301 (51) Lo
15 CUR. EMPH IC601 (44) Lo
16 DM CTL IC601 (55) ROTATE
17 VPON IC601 (49) Lo
18 REV/FWD IC601 (48) Lo
19 AUDIO MUTE IC601 (43) Lo
MUTE
20 S1 IC601 (34) Lo
21 S2 IC601 (33) Lo

5-1-6. STOP/FF. OR REW/STOP

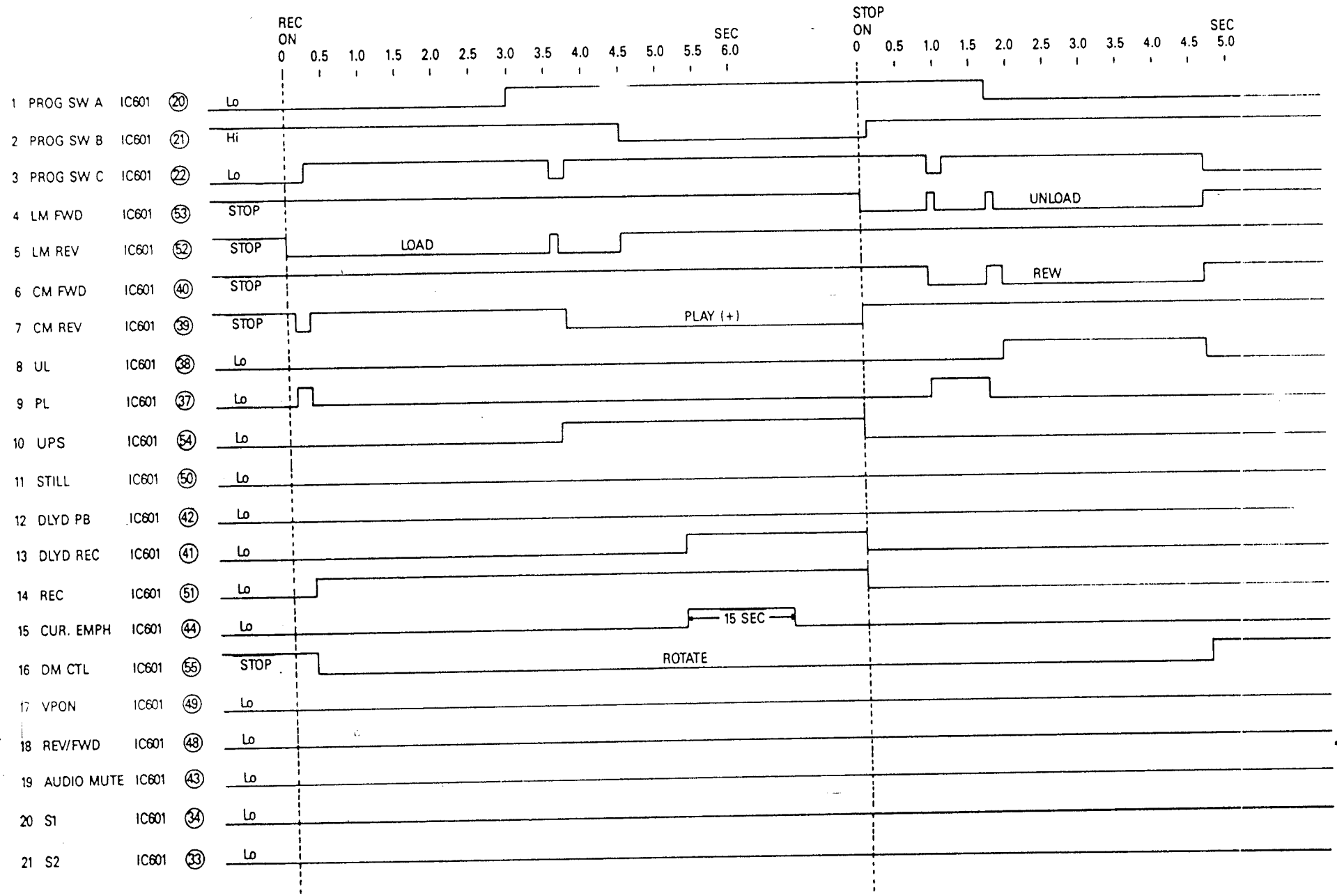

FF ON
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 SEC
STOP ON
0 0.2 0.4 0.6 0.8 SEC
REW ON
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 SEC
STOP ON
0 0.2 0.4 0.6 0.8 SEC
1 PROG SW A IC601 (20) Lo
2 PROG SW B IC601 (21) Hi
3 PROG SW C IC601 (22) Lo
4 LM FWD IC601 (53) STOP
5 LM REV IC601 (52) STOP
6 CM FWD IC601 (40) STOP
REW
7 CM REV IC601 (39) STOP
FF
8 UL IC601 (38) Lo
9 PL IC601 (37) Lo
10 UPS IC601 (54) Lo
11 STILL IC601 (50) Lo
12 DLYD PB IC601 (42) Lo
13 DLYD REC IC601 (41) Lo
14 REC IC601 (51) Lo
15 CUR. EMPH IC601 (44) Lo
16 DM CTL IC601 (55) Hi
17 VPON IC601 (49) Lo
18 REV/FWD IC601 (48) Lo
REW
19 AUDIO MUTE IC601 (43) Lo
20 S1 IC601 (34) Lo
21 S2 IC601 (33) Lo

5-1-8. REC/PAUSE/REC


PAUSE ON
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 SEC
REC ON
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 SEC
1 PROG SW A IC601 ⑳ Hi
2 PROG SW B IC601 ㉑ Lo
3 PROG SW C IC601 ㉒ Hi
4 LM FWD IC601 ㊸ STOP
5 LM REV IC601 ㊷ STOP
6 CM FWD IC601 ㊵ STOP
REW (S)
7 CM REV IC601 ㊴ PLAY (+)
PAUSE
PLAY (+)
8 UL IC601 ㊳ Lo
9 PL IC601 ㊲ Lo
10 $\overline{UPS}$ IC601 ㊹ Hi
11 STILL IC601 ㊿ Lo
12 DLYD PB IC601 ㊷ Lo
13 DLYD REC IC601 ㊶ Hi
14 REC IC601 ㊶ Hi
15 CUR. EMPH IC601 ㊹ Lo
16 $\overline{CM\ CTL}$ IC601 ㊺ ROTATE
17 VPON IC601 ㊾ Lo
18 REV/$\overline{FWD}$ IC601 ㊽ Lo
REW (S)
*1:2.5 SEC
19 AUDIO MUTE IC601 ㊸ Lo
20 S1 IC601 ㉞ Lo
21 S2 IC601 ㉝ Lo

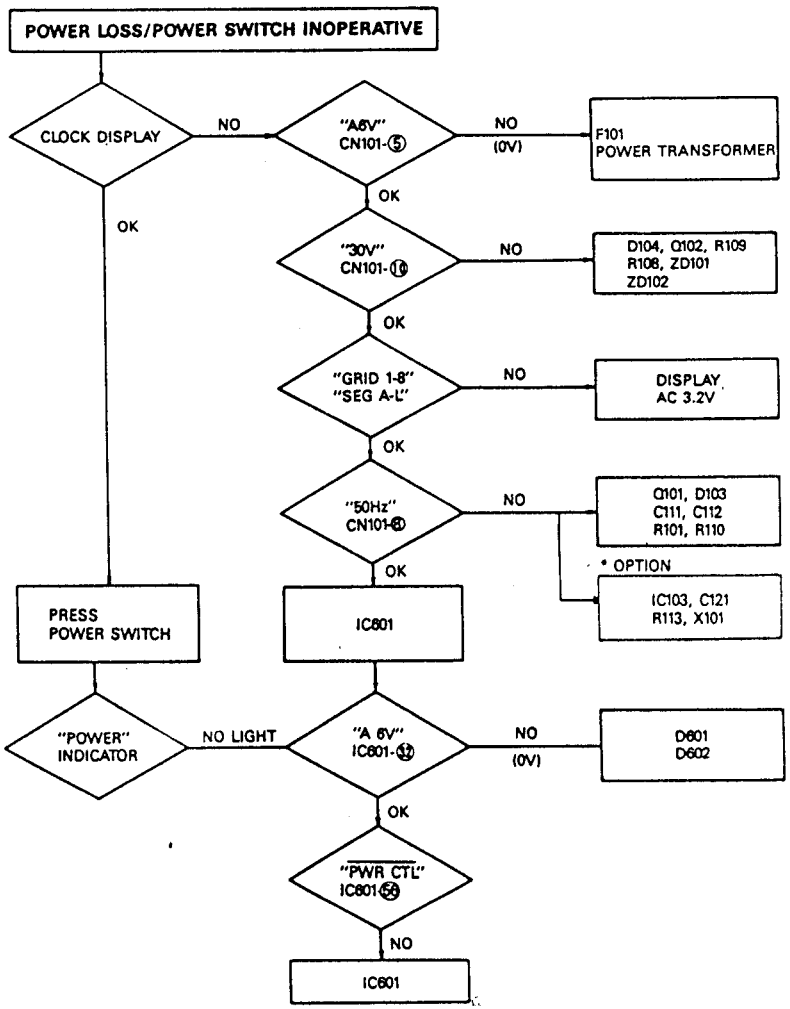
*1: WHEN THE FIRST OF TAPE IS SENSED IN THIS INTERVAL.
THE NEXT STEP IN THIS TIMING CHART WILL BE PERFOMED.

5-1-7. STOP/REC/STOP

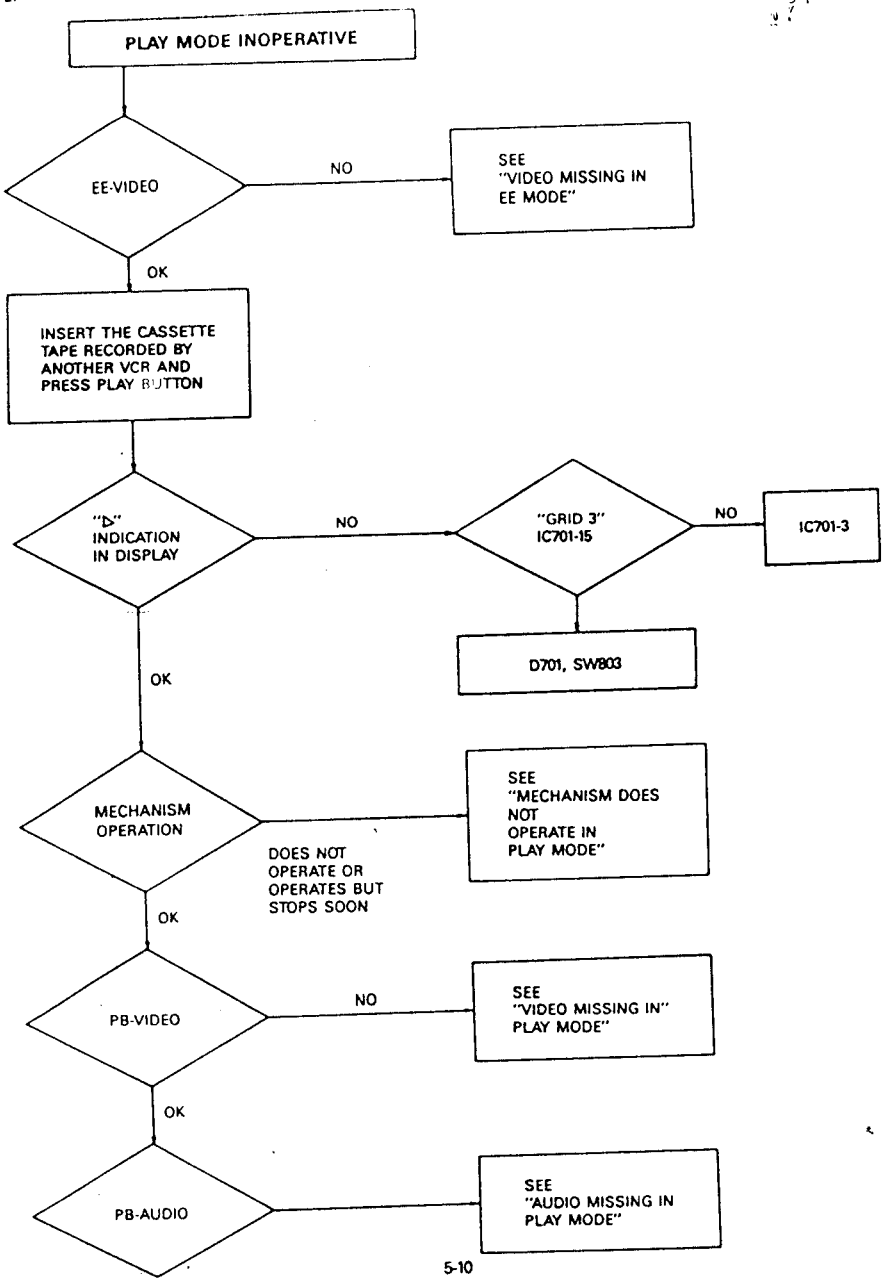

REC ON
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 SEC
STOP ON
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 SEC
1 PROG SW A IC601 (20) Lo
2 PROG SW B IC601 (21) Hi
3 PROG SW C IC601 (22) Lo
4 LM FWD IC601 (53) STOP
5 LM REV IC601 (52) STOP
6 CM FWD IC601 (40) STOP
7 CM REV IC601 (39) STOP
8 UL IC601 (38) Lo
9 PL IC601 (37) Lo
10 UPS IC601 (54) Lo
11 STILL IC601 (50) Lo
12 DLYD PB IC601 (42) Lo
13 DLYD REC IC601 (41) Lo
14 REC IC601 (51) Lo
15 CUR. EMPH IC601 (44) Lo
16 DM CTL IC601 (55) STOP
17 VPON IC601 (49) Lo
18 REV/FWD IC601 (48) Lo
19 AUDIO MUTE IC601 (43) Lo
20 S1 IC601 (34) Lo
21 S2 IC601 (33) Lo
LOAD
PLAY (+)
UNLOAD
REW
15 SEC
ROTATE

5-2. Troubleshooting Guides

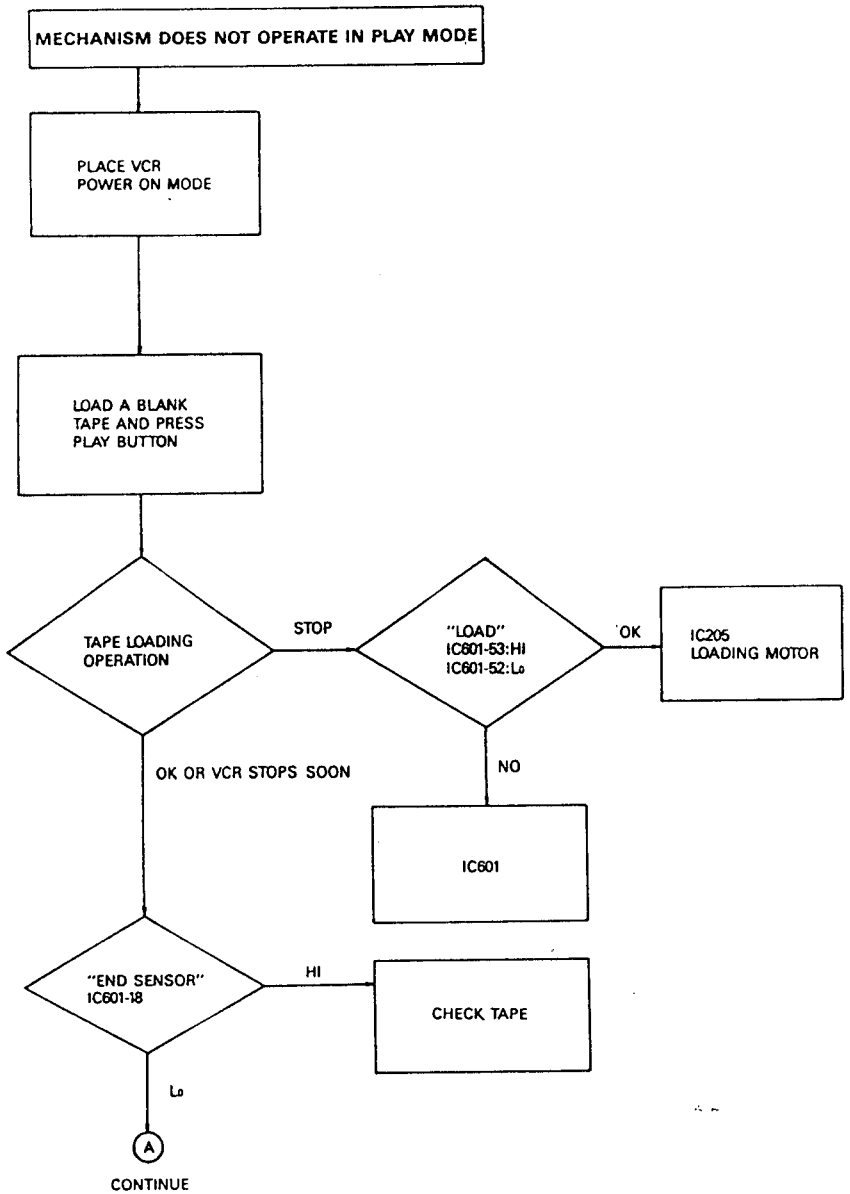
5-2-1.

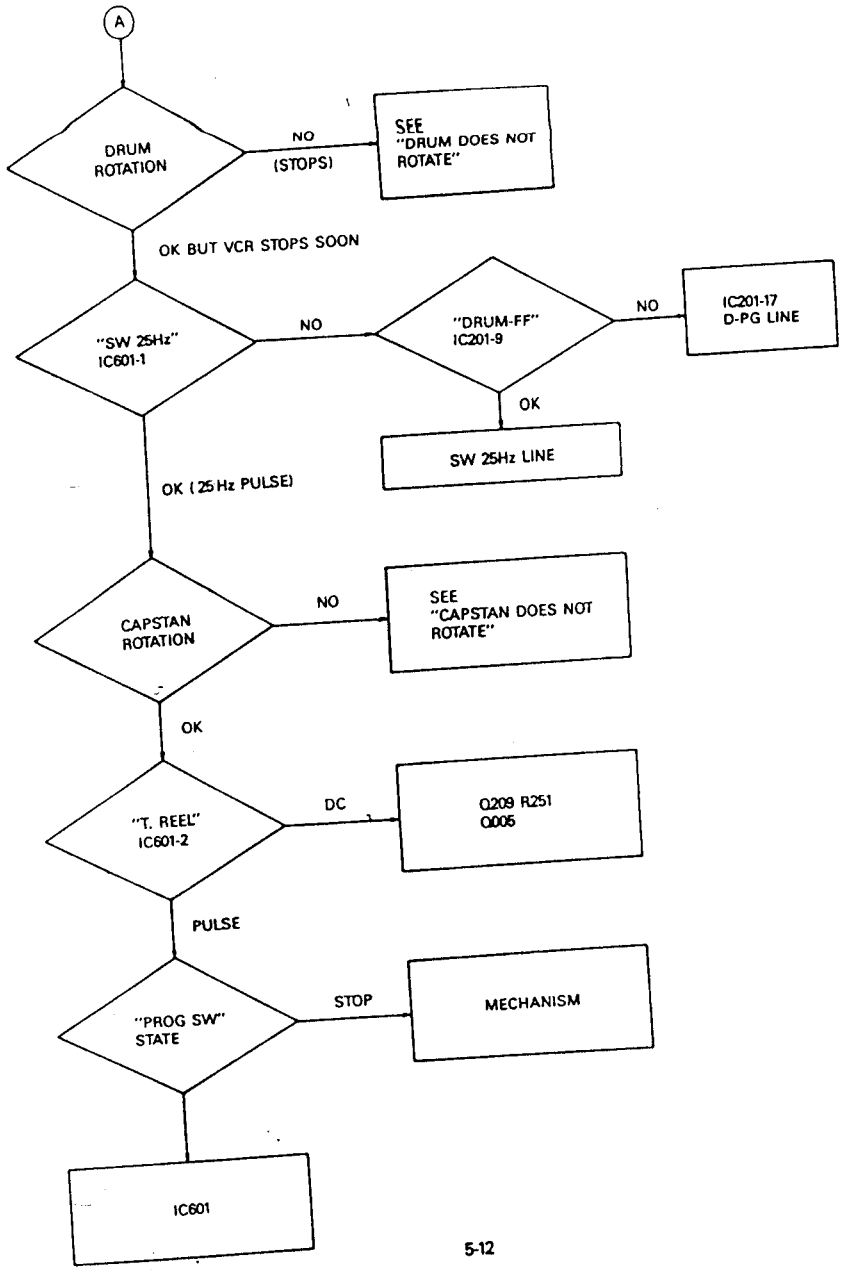


5-2-2.

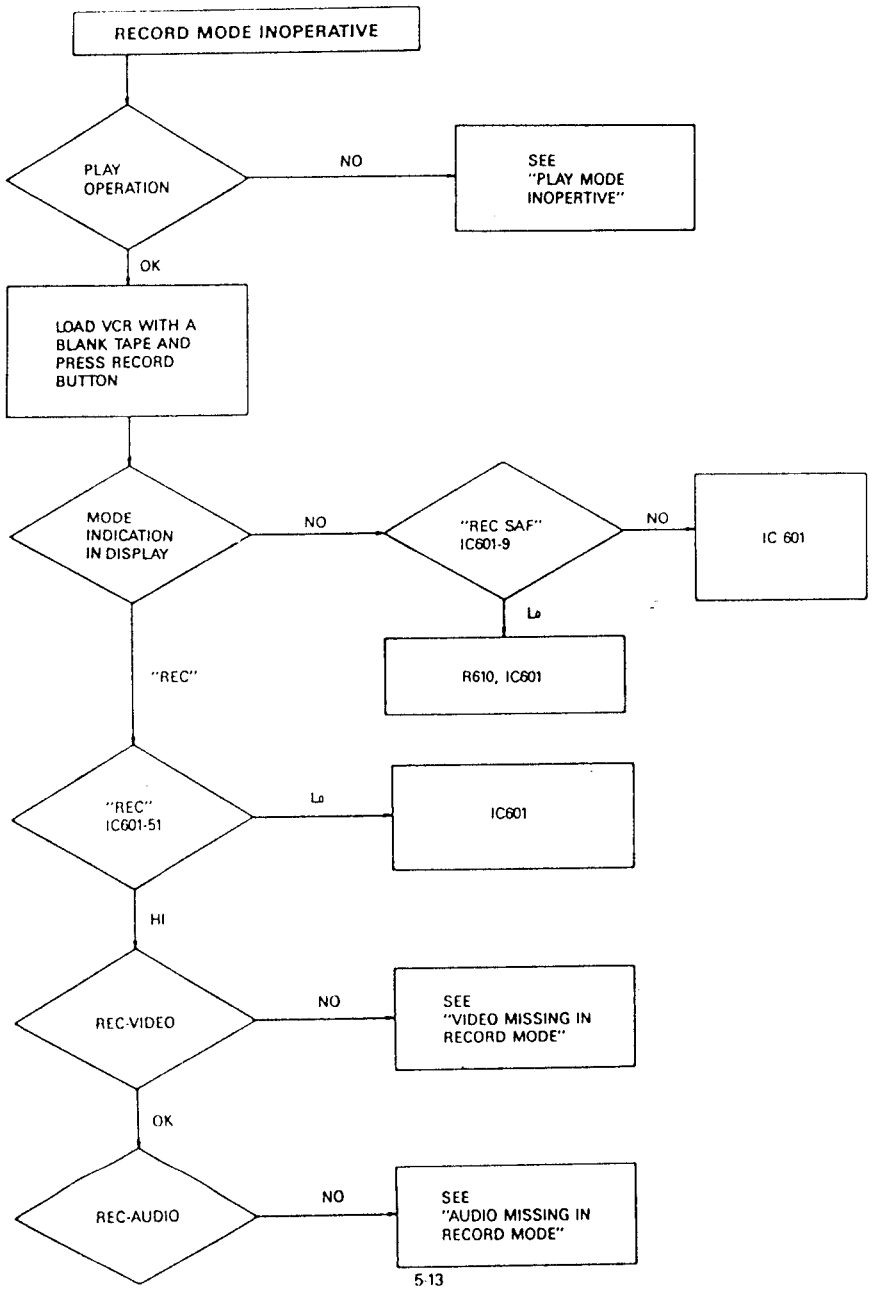


5-2-3.

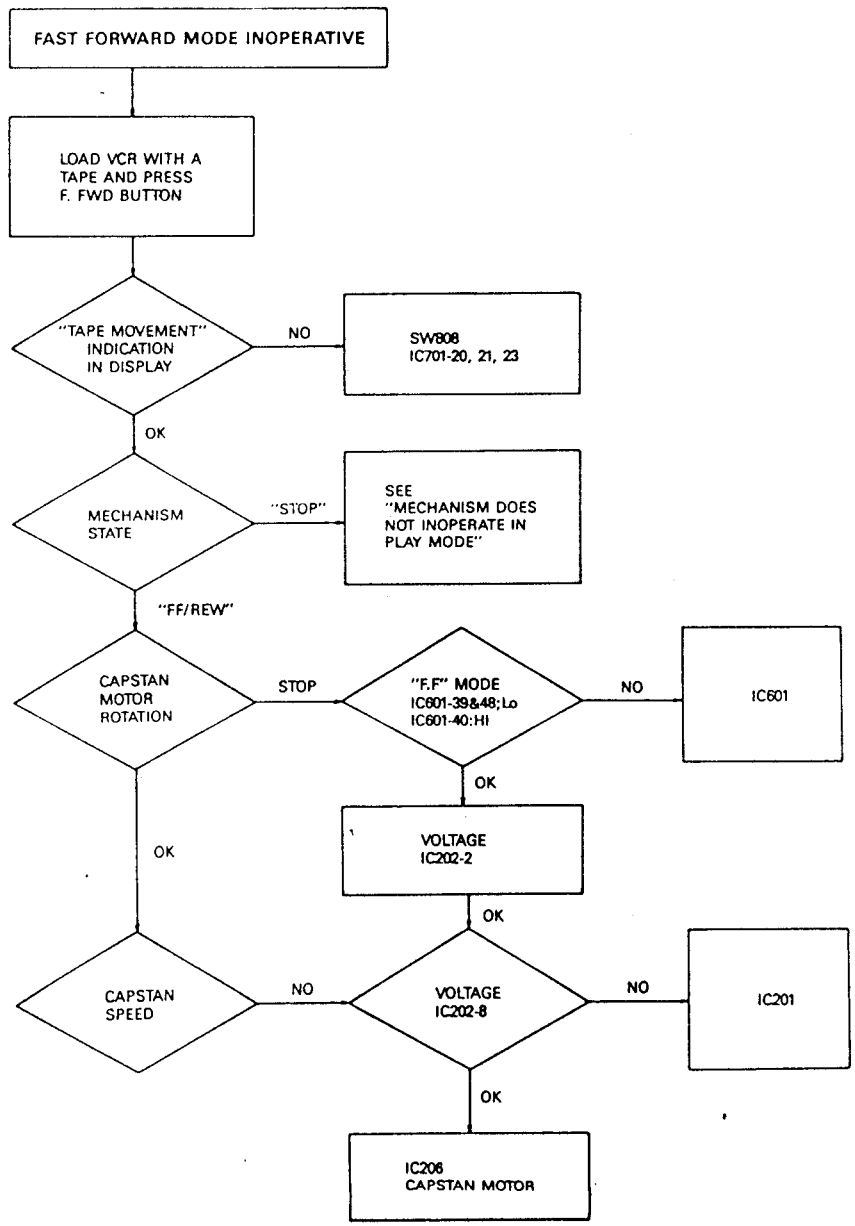

MECHANISM DOES NOT OPERATE IN PLAY MODE
PLACE VCR POWER ON MODE
LOAD A BLANK TAPE AND PRESS PLAY BUTTON
TAPE LOADING OPERATION
STOP
"LOAD" IC601-53:HI IC601-52:Lo
OK
IC205 LOADING MOTOR
NO
IC601
OK OR VCR STOPS SOON
"END SENSOR" IC601-18
HI
CHECK TAPE
Lo
A
CONTINUE


A
DRUM ROTATION
NO
(STOPS)
SEE "DRUM DOES NOT ROTATE"
OK BUT VCR STOPS SOON
"SW 25Hz" IC601-1
NO
"DRUM-FF" IC201-9
NO
IC201-17 D-PG LINE
OK
SW 25Hz LINE
OK (25Hz PULSE)
CAPSTAN ROTATION
NO
SEE "CAPSTAN DOES NOT ROTATE"
OK
"T. REEL" IC601-2
DC
Q209 R251 Q005
PULSE
"PROG SW" STATE
STOP
MECHANISM
IC601

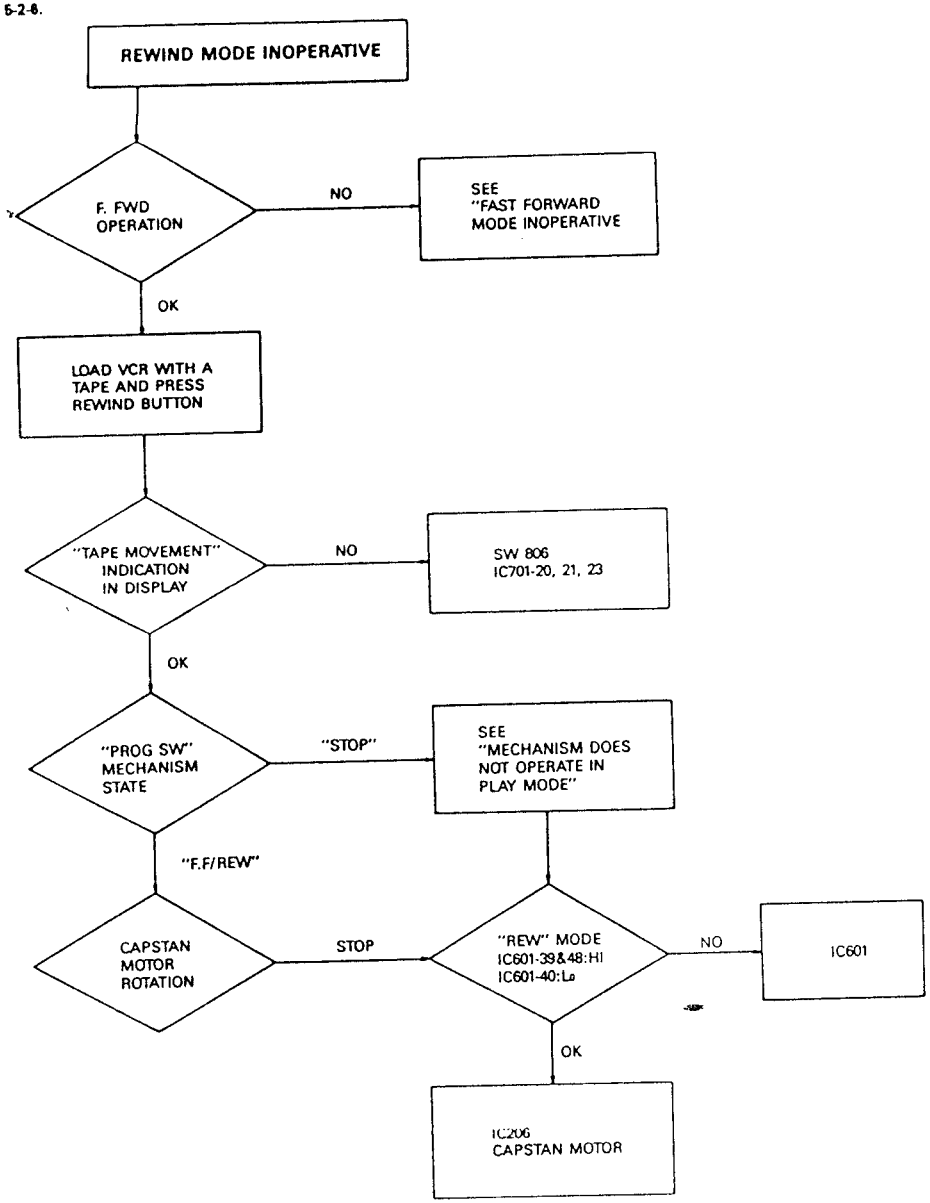
5-2-4.


RECORD MODE INOPERATIVE
PLAY OPERATION
NO
SEE "PLAY MODE INOPERTIVE"
OK
LOAD VCR WITH A BLANK TAPE AND PRESS RECORD BUTTON
MODE INDICATION IN DISPLAY
NO
"REC SAF" IC601-9
NO
IC 601
Lo
R610, IC601
"REC"
"REC" IC601-51
Lo
IC601
HI
REC-VIDEO
NO
SEE "VIDEO MISSING IN RECORD MODE"
OK
REC-AUDIO
NO
SEE "AUDIO MISSING IN RECORD MODE"

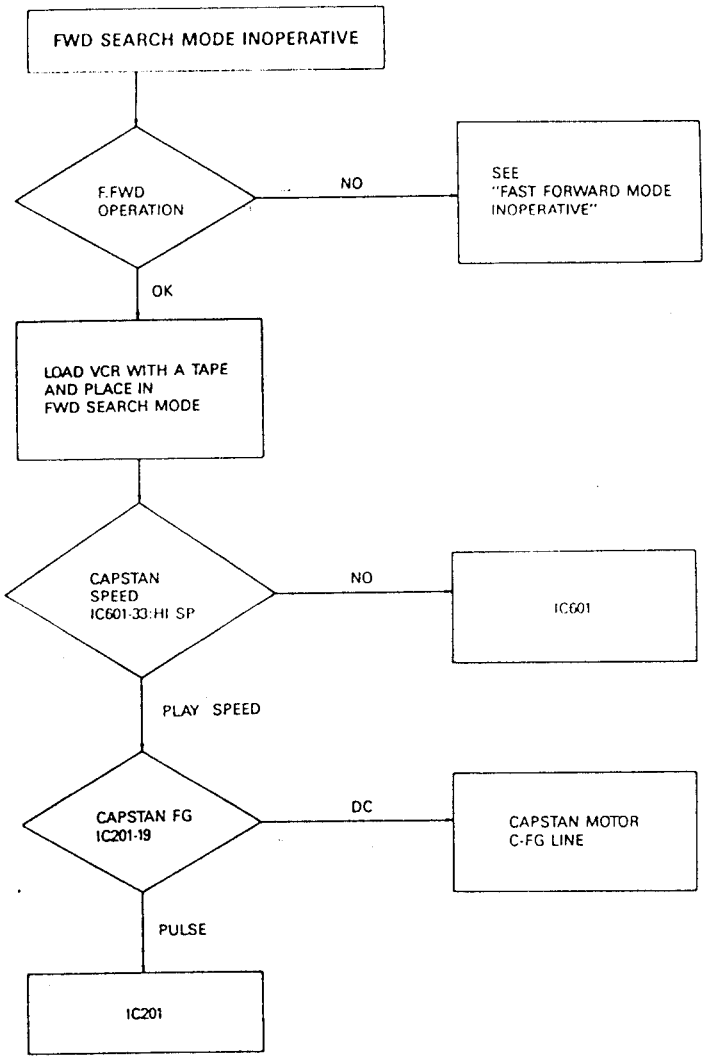
5-2-5.


FAST FORWARD MODE INOPERATIVE
LOAD VCR WITH A TAPE AND PRESS F. FWD BUTTON
"TAPE MOVEMENT" INDICATION IN DISPLAY
NO
SW808 IC701-20, 21, 23
OK
MECHANISM STATE
"STOP"
SEE "MECHANISM DOES NOT INOPERATE IN PLAY MODE"
"FF/REW"
CAPSTAN MOTOR ROTATION
STOP
"F.F" MODE IC601-39&48;Lo IC601-40:HI
NO
IC601
OK
VOLTAGE IC202-2
OK
OK
CAPSTAN SPEED
NO
VOLTAGE IC202-8
NO
IC201
OK
IC206 CAPSTAN MOTOR

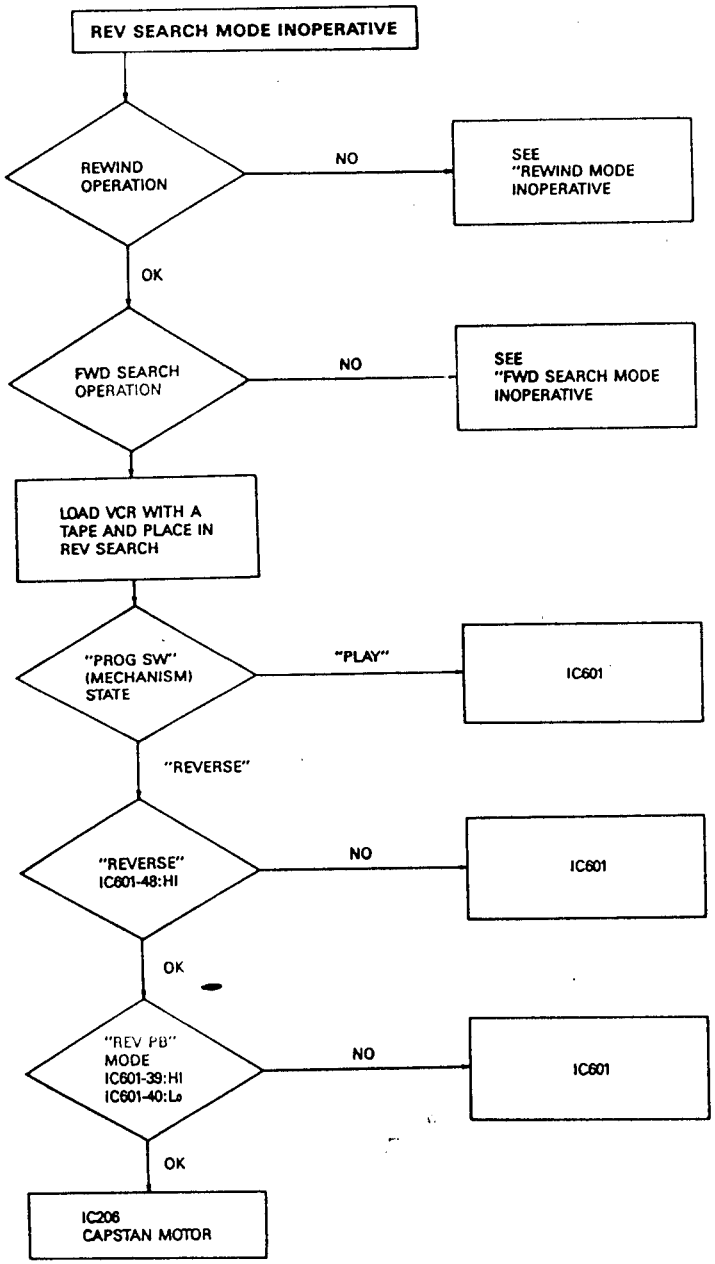
5-2-8.


REWIND MODE INOPERATIVE
F. FWD OPERATION
NO
SEE "FAST FORWARD MODE INOPERATIVE
OK
LOAD VCR WITH A TAPE AND PRESS REWIND BUTTON
"TAPE MOVEMENT" INDICATION IN DISPLAY
NO
SW 806 IC701-20, 21, 23
OK
"PROG SW" MECHANISM STATE
"STOP"
SEE "MECHANISM DOES NOT OPERATE IN PLAY MODE"
"F.F/REW"
CAPSTAN MOTOR ROTATION
STOP
"REW" MODE IC601-39&48:HI IC601-40:Lo
NO
IC601
OK
IC206 CAPSTAN MOTOR

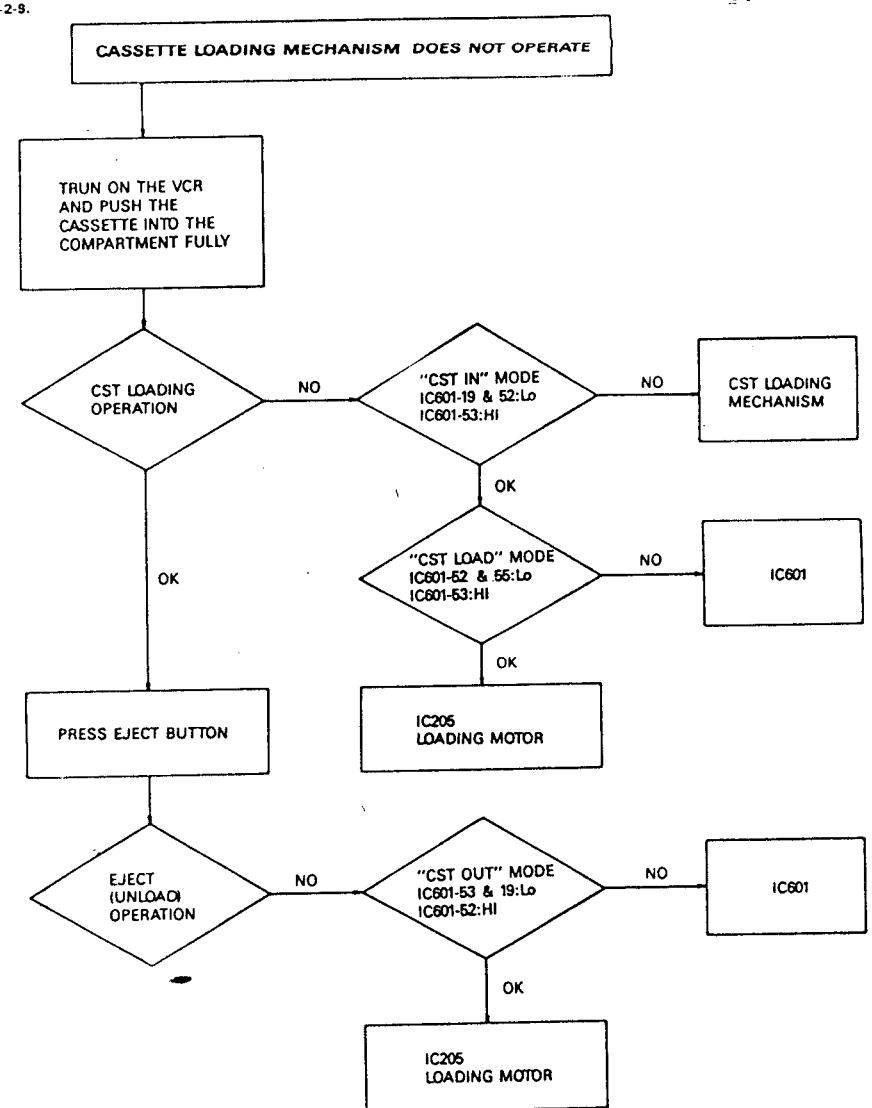
5-2-7.

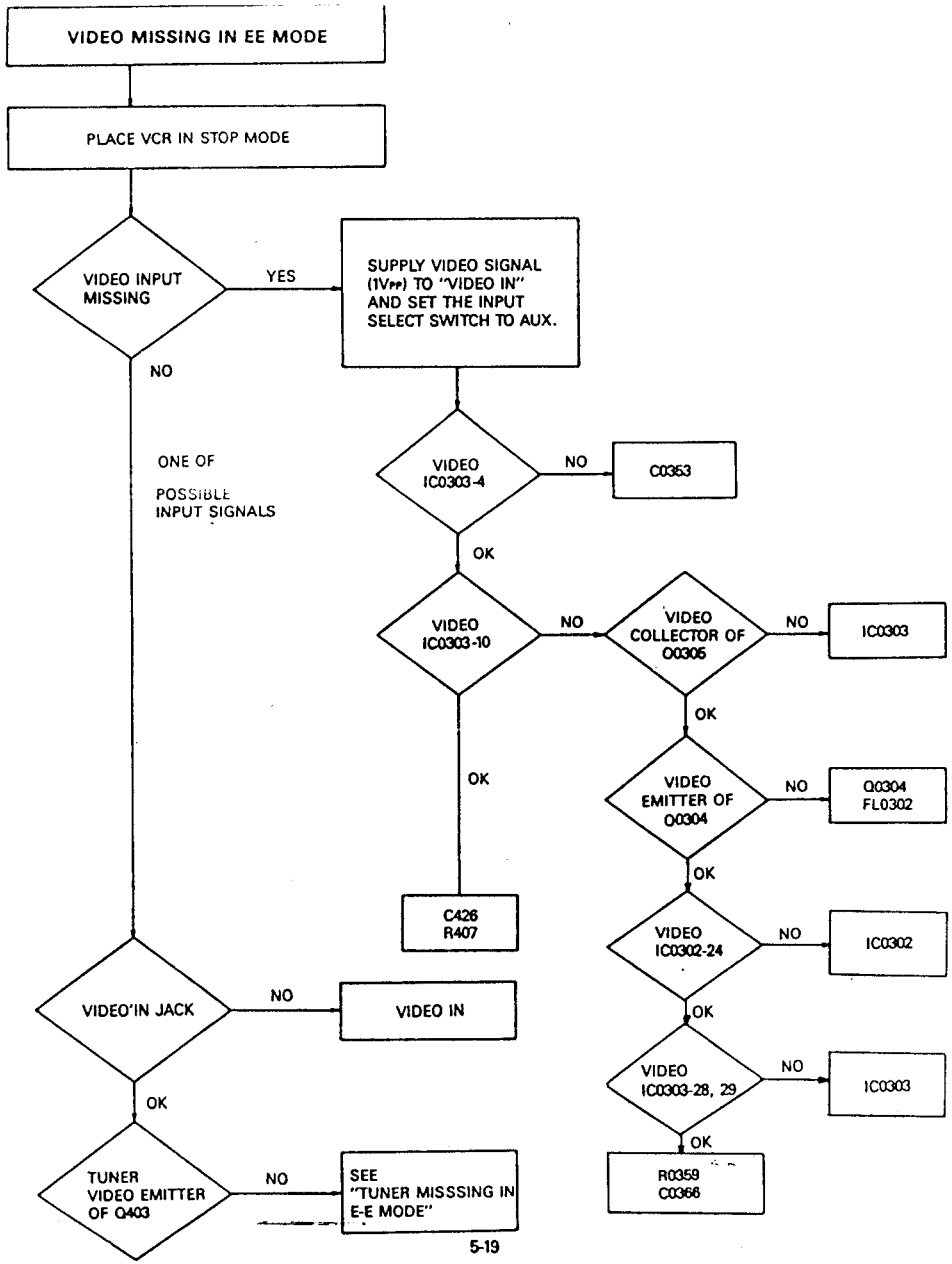

FWD SEARCH MODE INOPERATIVE
F.FWD OPERATION
NO
SEE "FAST FORWARD MODE INOPERATIVE"
OK
LOAD VCR WITH A TAPE AND PLACE IN FWD SEARCH MODE
CAPSTAN SPEED IC601-33:HI SP
NO
IC601
PLAY SPEED
CAPSTAN FG IC201-19
DC
CAPSTAN MOTOR C-FG LINE
PULSE
IC201

5-2-8.

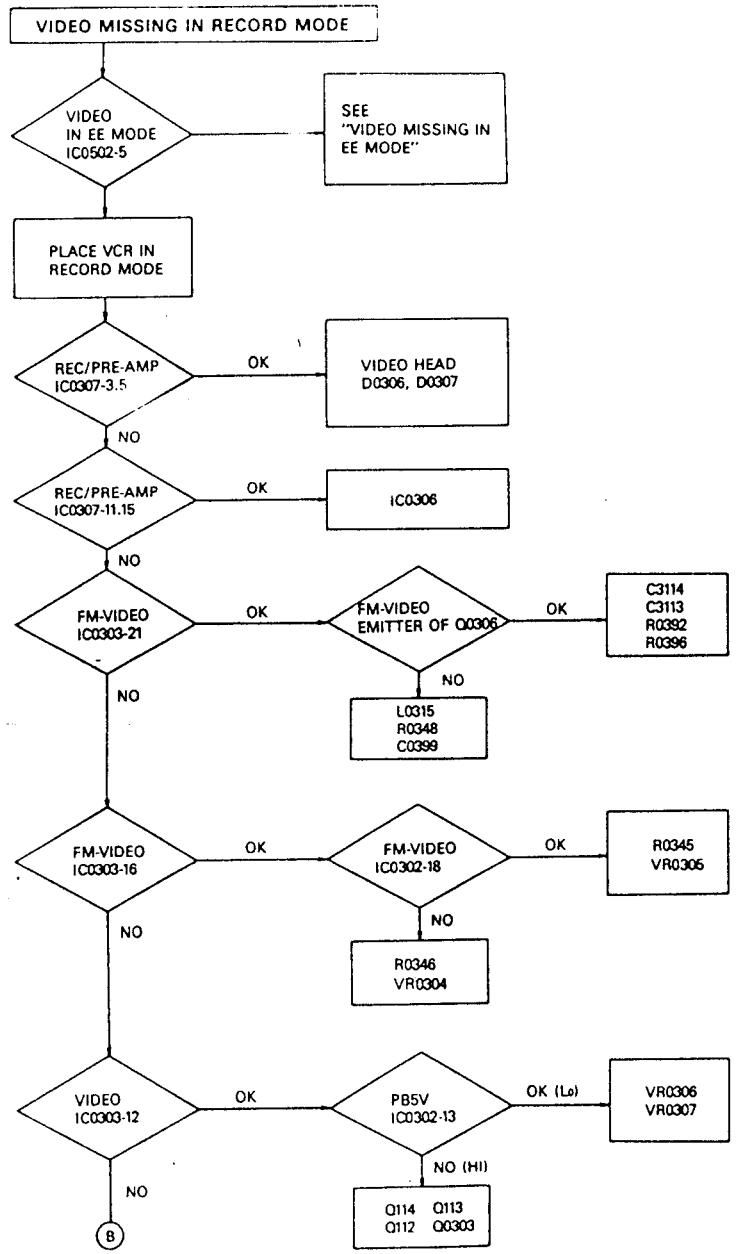

REV SEARCH MODE INOPERATIVE
REWIND OPERATION
NO
SEE "REWIND MODE INOPERATIVE
OK
FWD SEARCH OPERATION
NO
SEE "FWD SEARCH MODE INOPERATIVE
LOAD VCR WITH A TAPE AND PLACE IN REV SEARCH
"PROG SW" (MECHANISM) STATE
"PLAY"
IC601
"REVERSE"
"REVERSE" IC601-48:HI
NO
IC601
OK
"REV PB" MODE IC601-39:HI IC601-40:Lo
NO
IC601
OK
IC206 CAPSTAN MOTOR

5-2-9.

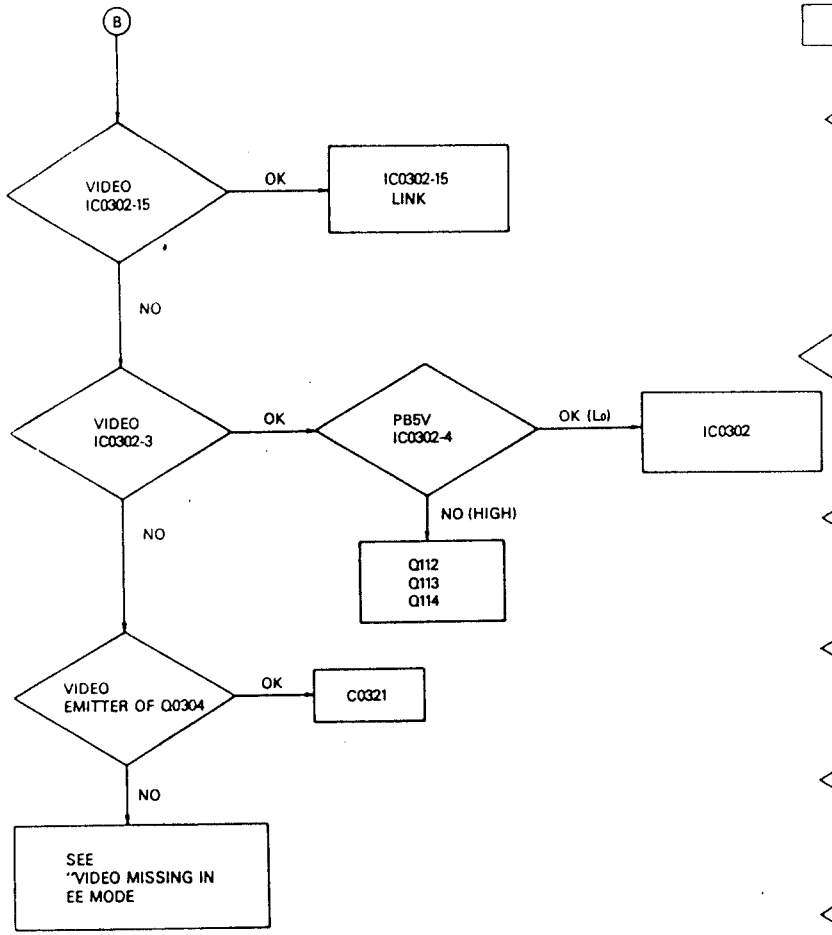

CASSETTE LOADING MECHANISM DOES NOT OPERATE
TRUN ON THE VCR AND PUSH THE CASSETTE INTO THE COMPARTMENT FULLY
CST LOADING OPERATION
NO
"CST IN" MODE IC601-19 & 52:Lo IC601-53:HI
NO
CST LOADING MECHANISM
OK
OK
"CST LOAD" MODE IC601-52 & 55:Lo IC601-53:HI
NO
IC601
OK
IC205 LOADING MOTOR
PRESS EJECT BUTTON
EJECT (UNLOAD) OPERATION
NO
"CST OUT" MODE IC601-53 & 19:Lo IC601-52:HI
NO
IC601
OK
IC205 LOADING MOTOR


VIDEO MISSING IN EE MODE
PLACE VCR IN STOP MODE
VIDEO INPUT MISSING
YES
SUPPLY VIDEO SIGNAL (1Vpp) TO "VIDEO IN" AND SET THE INPUT SELECT SWITCH TO AUX.
NO
ONE OF POSSIBLE INPUT SIGNALS
VIDEO IC0303-4
NO
C0353
OK
VIDEO IC0303-10
NO
VIDEO COLLECTOR OF Q0305
NO
IC0303
OK
OK
VIDEO EMITTER OF Q0304
NO
Q0304 FL0302
OK
C426 R407
VIDEO IC0302-24
NO
IC0302
OK
VIDEO IC0303-28, 29
NO
IC0303
OK
R0359 C0366
VIDEO'IN JACK
NO
VIDEO IN
OK
TUNER VIDEO EMITTER OF Q403
NO
SEE "TUNER MISSSING IN E-E MODE"

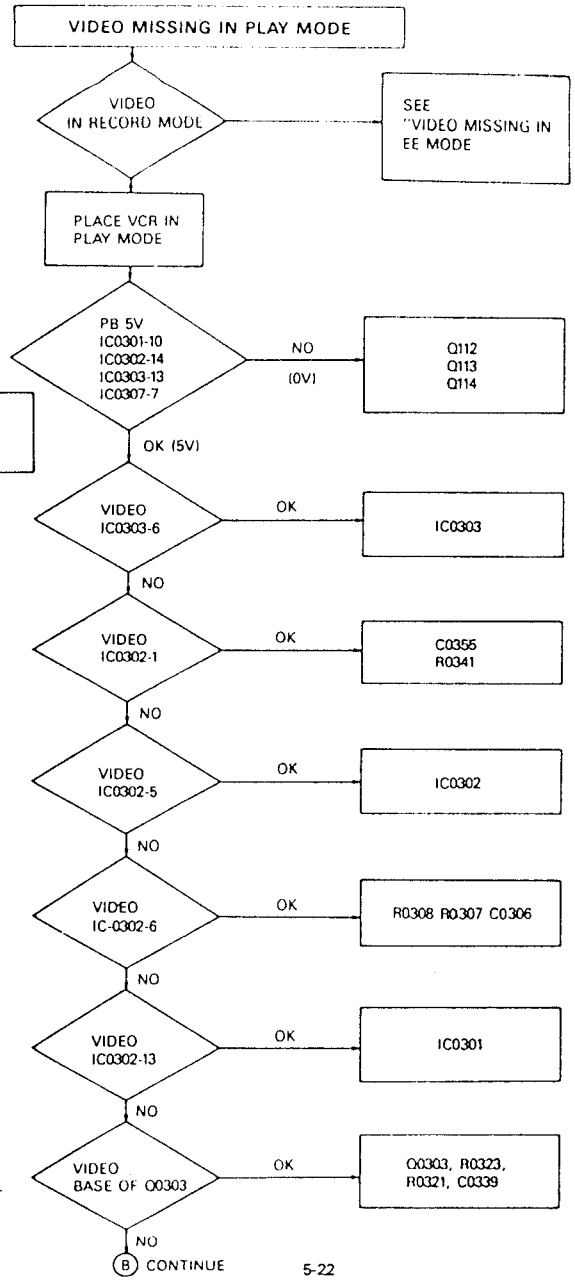
5-19


VIDEO MISSING IN RECORD MODE
VIDEO IN EE MODE IC0502-5
SEE "VIDEO MISSING IN EE MODE"
PLACE VCR IN RECORD MODE
REC/PRE-AMP IC0307-3.5
OK
VIDEO HEAD D0306, D0307
NO
REC/PRE-AMP IC0307-11.15
OK
IC0306
NO
FM-VIDEO IC0303-21
OK
FM-VIDEO EMITTER OF Q0306
OK
C3114 C3113 R0392 R0396
NO
L0315 R0348 C0399
NO
FM-VIDEO IC0303-16
OK
FM-VIDEO IC0302-18
OK
R0345 VR0305
NO
R0346 VR0304
NO
VIDEO IC0303-12
OK
PB5V IC0302-13
OK (Lo)
VR0306 VR0307
NO (HI)
Q114 Q113 Q112 Q0303
NO
B

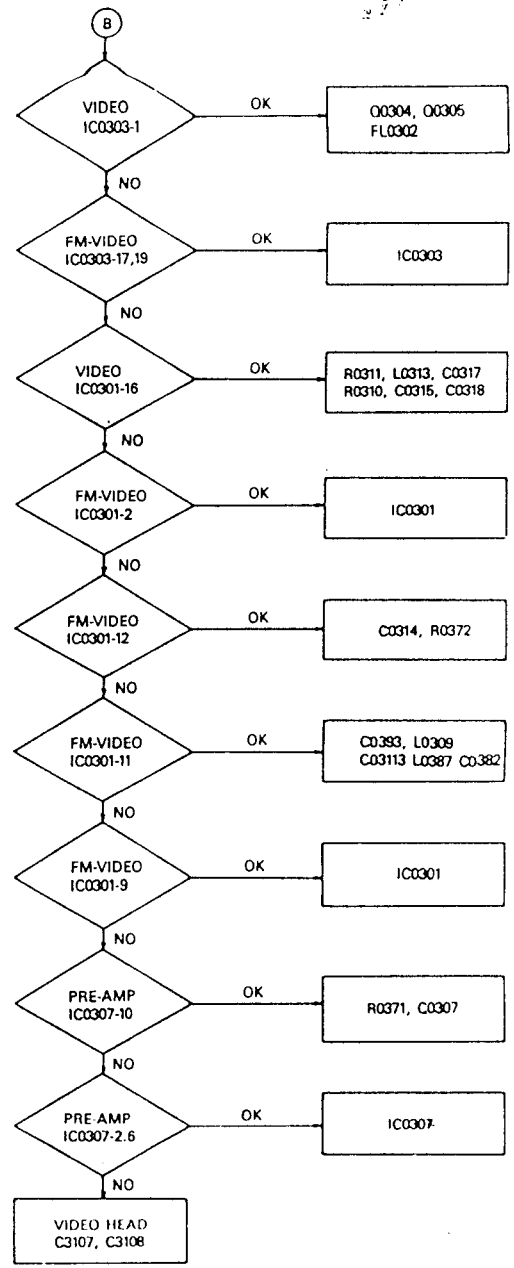
5-20


B
VIDEO IC0302-15
OK
IC0302-15 LINK
NO
VIDEO IC0302-3
OK
PB5V IC0302-4
OK (Lo)
IC0302
NO (HIGH)
Q112 Q113 Q114
NO
VIDEO EMITTER OF Q0304
OK
C0321
NO
SEE "VIDEO MISSING IN EE MODE

5-21

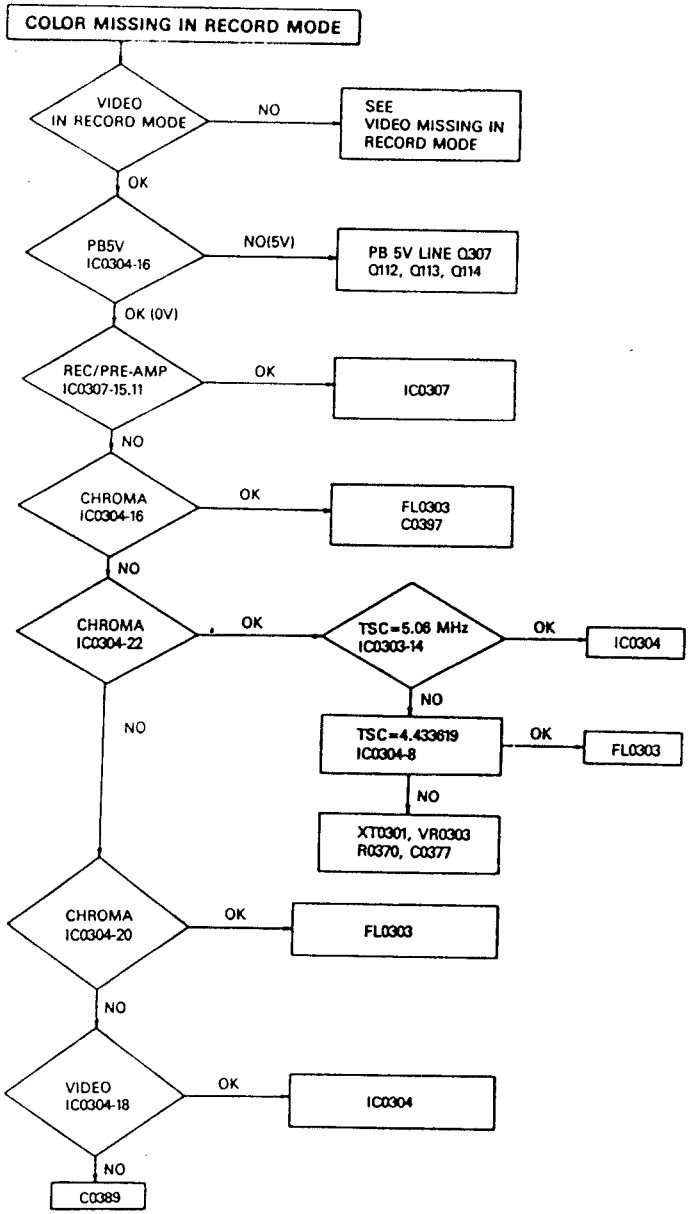

VIDEO MISSING IN PLAY MODE
VIDEO IN RECORD MODE
SEE "VIDEO MISSING IN EE MODE
PLACE VCR IN PLAY MODE
PB 5V IC0301-10 IC0302-14 IC0303-13 IC0307-7
NO (0V)
Q112 Q113 Q114
OK (5V)
VIDEO IC0303-6
OK
IC0303
NO
VIDEO IC0302-1
OK
C0355 R0341
NO
VIDEO IC0302-5
OK
IC0302
NO
VIDEO IC-0302-6
OK
R0308 R0307 C0306
NO
VIDEO IC0302-13
OK
IC0301
NO
VIDEO BASE OF Q0303
OK
Q0303, R0323, R0321, C0339
NO
B CONTINUE

5-22

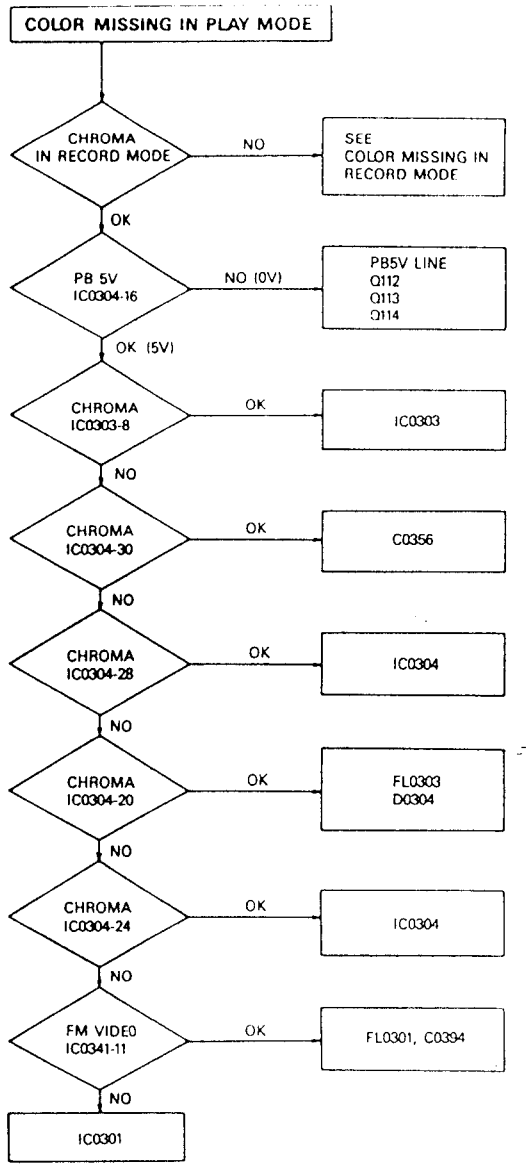

B
VIDEO IC0303-1
OK
Q0304, Q0305 FL0302
NO
FM-VIDEO IC0303-17,19
OK
IC0303
NO
VIDEO IC0301-16
OK
R0311, L0313, C0317 R0310, C0315, C0318
NO
FM-VIDEO IC0301-2
OK
IC0301
NO
FM-VIDEO IC0301-12
OK
C0314, R0372
NO
FM-VIDEO IC0301-11
OK
C0393, L0309 C03113 L0387 C0382
NO
FM-VIDEO IC0301-9
OK
IC0301
NO
PRE-AMP IC0307-10
OK
R0371, C0307
NO
PRE-AMP IC0307-2,6
OK
IC0307
NO
VIDEO HEAD C3107, C3108

5-23

5-2-13.

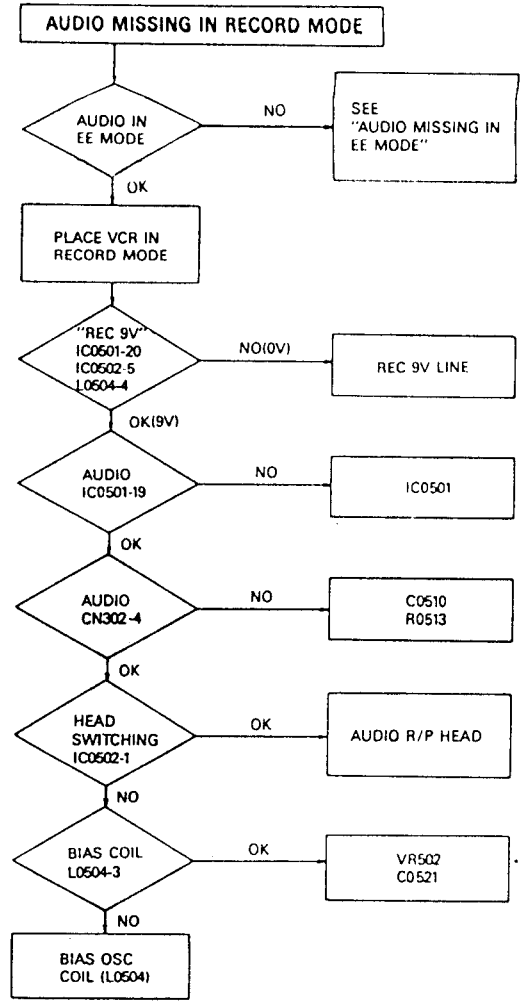


5-24



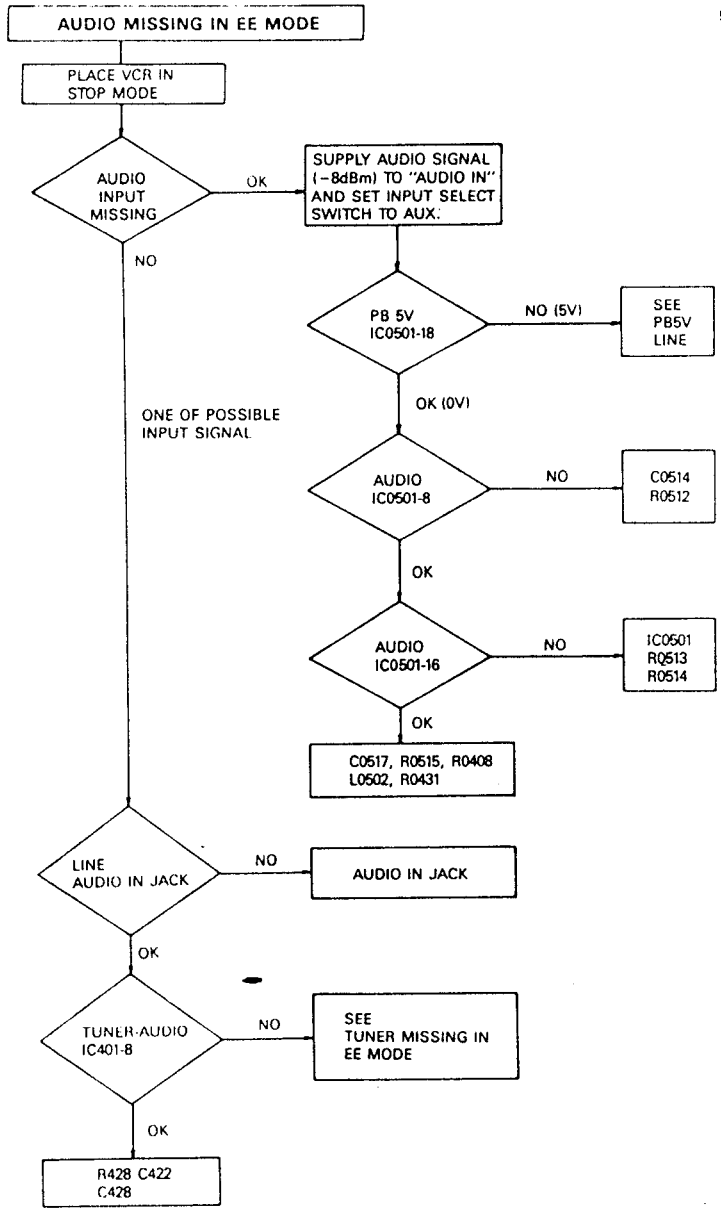
5-25

5-2-15.

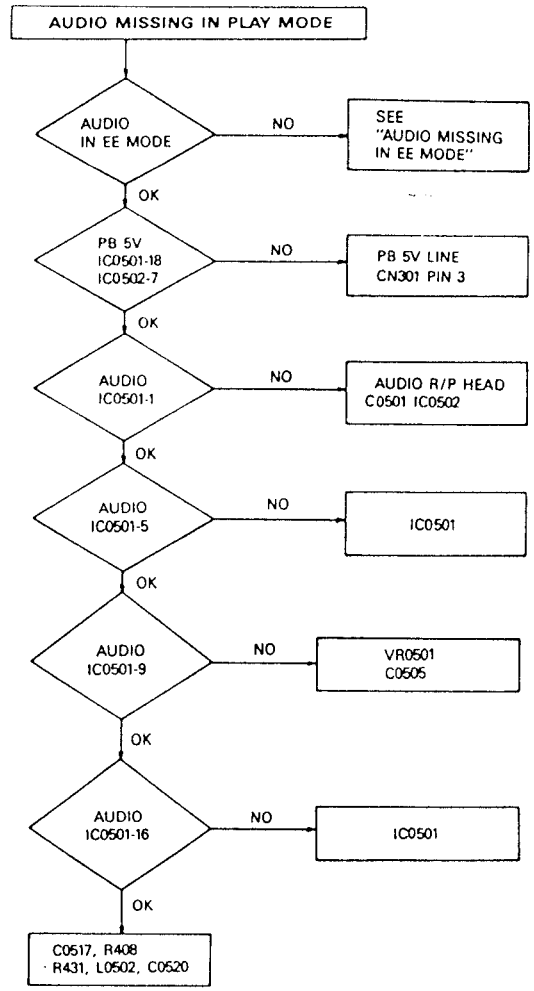


5-26

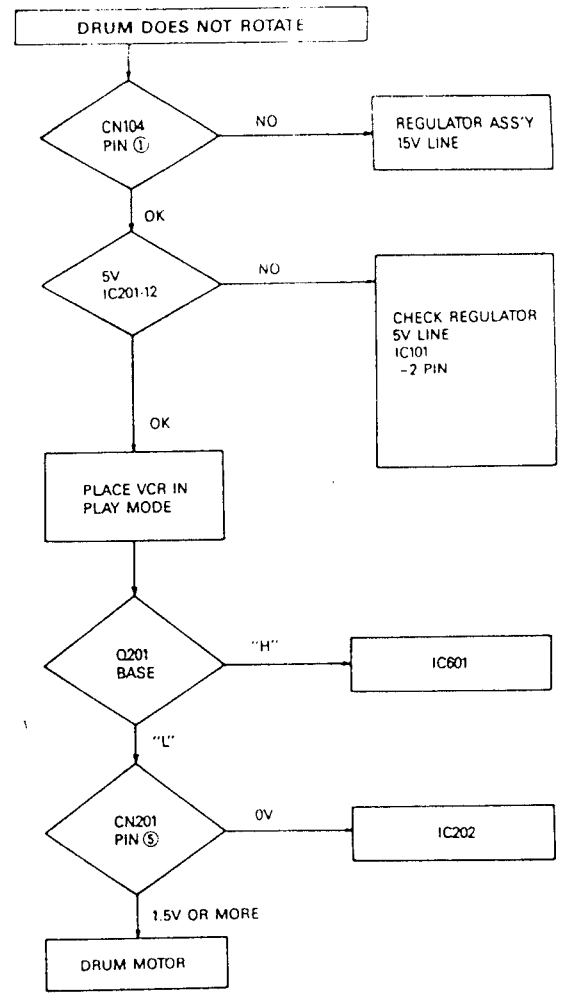
5-2-16.



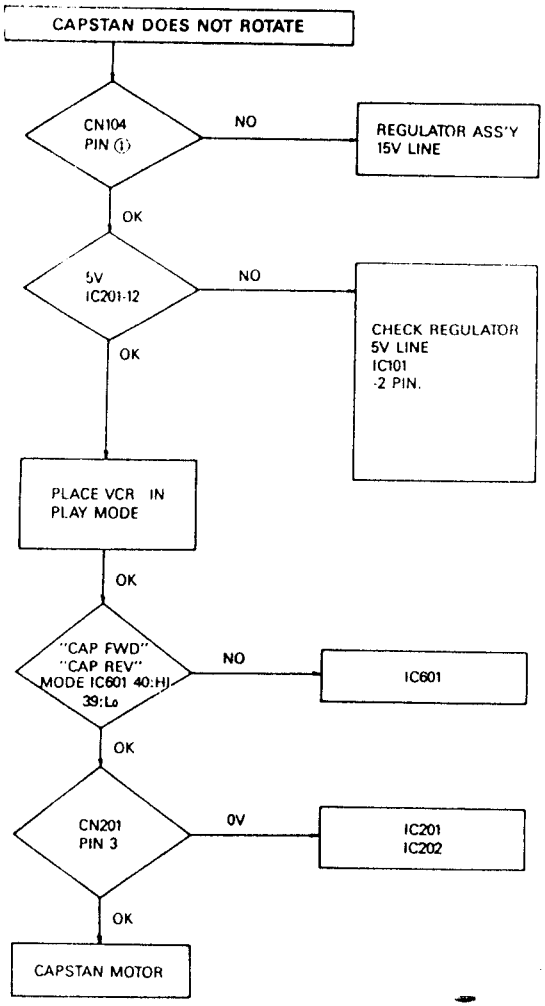
5-2-17.



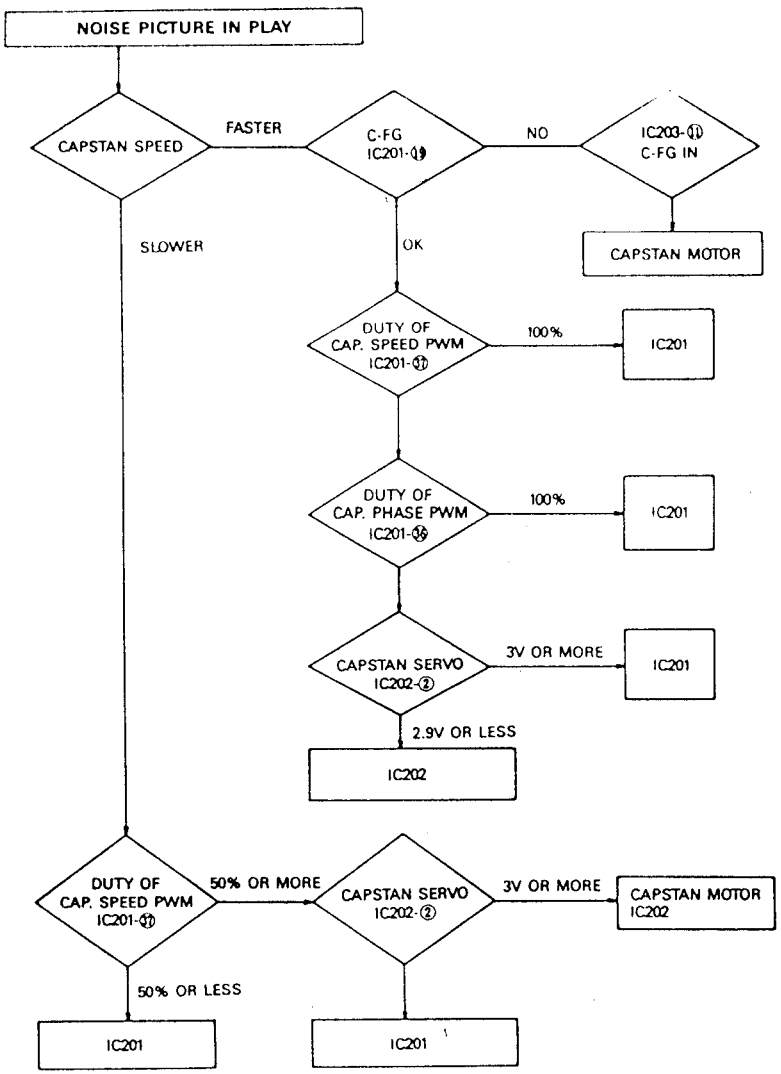
5-2-18.

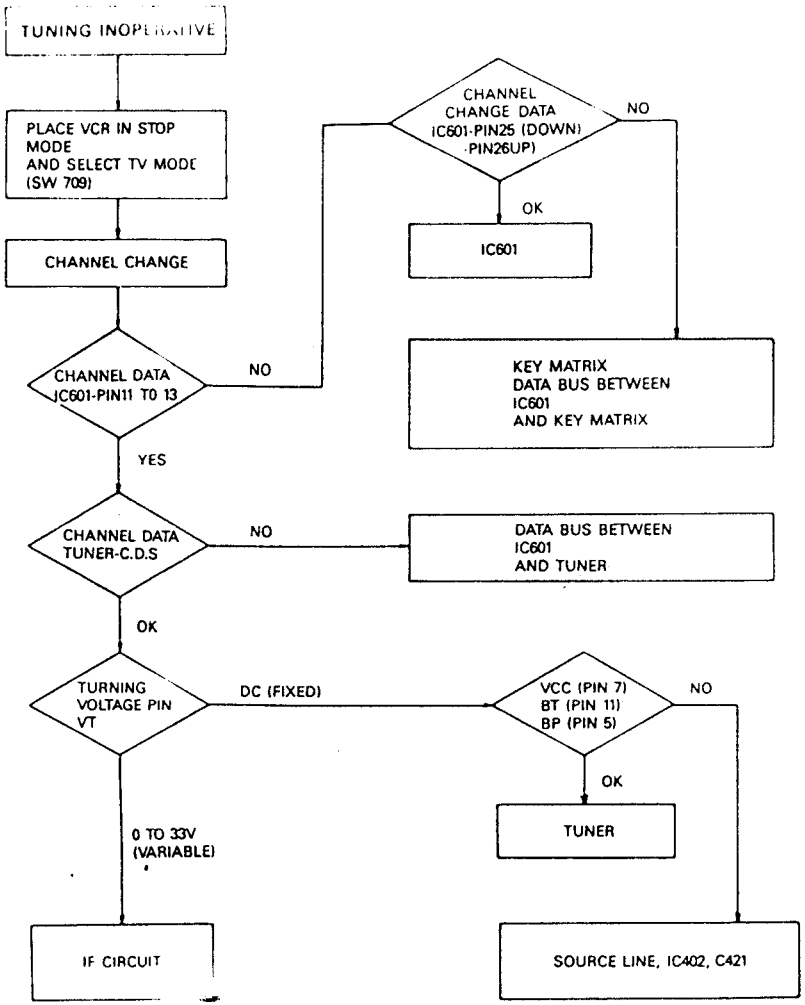


5-2-19.


CAPSTAN DOES NOT ROTATE
CN104 PIN ①
NO
REGULATOR ASS'Y 15V LINE
OK
5V IC201-12
NO
CHECK REGULATOR 5V LINE IC101 -2 PIN.
OK
PLACE VCR IN PLAY MODE
OK
"CAP FWD" "CAP REV" MODE IC601 40:HI 39:Lo
NO
IC601
OK
CN201 PIN 3
0V
IC201 IC202
OK
CAPSTAN MOTOR

6-2-20.


NOISE PICTURE IN PLAY
CAPSTAN SPEED
FASTER
C-FG IC201-⑲
NO
IC203-⑪ C-FG IN
CAPSTAN MOTOR
SLOWER
OK
DUTY OF CAP. SPEED PWM IC201-㉑
100%
IC201
DUTY OF CAP. PHASE PWM IC201-㉒
100%
IC201
CAPSTAN SERVO IC202-②
3V OR MORE
IC201
2.9V OR LESS
IC202
DUTY OF CAP. SPEED PWM IC201-㉑
50% OR MORE
CAPSTAN SERVO IC202-②
3V OR MORE
CAPSTAN MOTOR IC202
50% OR LESS
IC201
IC201



6. REPLACEMENT PARTS LIST

6-1. MECHANICAL REPLACEMENT PARTS LIST

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
		Instrument Assembly		
1	69000-173-027	ASS'Y PANEL FRONT	VX-710	
52	66664-605-710	DOOR LOCK	ABS710 (VX-710)	
53	66664-605-810	DOOR HINGE	ABS710 (VX-710)	
122	69098-600-359	REGULATOR	PAL (G-7)	OPTION
122	69098-600-346	REGULATOR	PAL (G-7 DUAL)	OPTION
123	66614-615-100	BRKT-HEAT SINK	AL T2.0	
130	68020-600-820	FRAME	ABS 94VO BLK (G-7W)	
131	66612-600-810	BOTTOM COVER	SPG T0.5 (G-7W)	
134	66462-602-110	CONNECTOR BOARD	ABS 94VO	
135	63344-010-060	HOLDER JACK	G-7W B/G (VB-710)	
136	69702-603-201	ASS'Y MAIN B	PAL (G-7W)-A VX-710	
137	69752-603-201	ASS'Y MAIN A	PAL (G-7W)-A (VX-710)	
141	63104-600-220	GROUND-SPRING	SUS304 (G-7W) T0.3	
142	66634-601-210	CLAMPER WIRE	SPTE T0.3	
143	66614-714-310	BRKT GUIDE TAPS	SPG T1.0	
144	66614-611-710	BRKT-PRE AMP	SPG T0.8 (PAL G-7W)	
145	66614-608-110	BRKT-REGULATOR, PWR	SPG T1.0 (G-7W)	
146	64543-603-410	SHILD CASE TOP	SPTE T0.25 (PAL G-7W)	
147	64544-610-610	SHILD CASE BOT	SPTE T0.25 (PAL G-7W)	
148	64543-603-110	SHILD CASE BODY	SPTE T0.25 (PAL G-7W)	
151	69770-603-204	ASS'Y TIMER	PAL (G-7)-A	
152	69780-603-204	ASS'Y FUNCTION	PAL (G-7)-A	
160	66664-605-110	HINGE MAIN B	PA (G7-W) PAL	
162	67743-600-012	DOOR FRONT ASS'Y	VX-710	
163	66002-601-110	TOP CABINET	MISH T0.8 BLK (G7-W)	
167	67018-126-053	SCREW FH	+M2.6x5 FE FZB	
181	67158-230-081	SCREW-TAP BH	2-3x8 FE FZY	
182	67154-101-440	SCREW-TAP PWH	2-3x10 FE FZY	
190	67158-240-121	SCREW-TAP BH	2-4x12 FE FZY	
191	67094-740-121	SCREW-TAP PWH	2S-4x12 FE FZY	
193	67158-240-103	SCREW-TAP BH	2-4x10 FE FZB	
200	66017-150-310	FULL DECK ASS'Y	D7-PRI	
278	69000-270-113	ASS'Y JOINT BOARD	G7	
454	69000-270-101	ASS'Y PRE AMP	D7 PRI	
501	66122-700-490	HOUSING ASS'Y	F/L SYSTEM (G7)	
		Transport Mechanism Assembly		
201	66120-600-050	MECHA CHASSIS ASS'Y	SECC+SUM	S.N.A
206	65234-600-411	REEL DISK (T) ASS'Y	POM+SUS	
207	65234-600-511	REEL DISK (S) ASS'Y	POM+SUS	
208	66604-609-110	HOLDER TENSION SP	SECCE 20/20	
209	66674-611-310	SPRING ARM TENSION	SUS304-WPB	
210	65254-608-410	ARM TENSION ASS'Y	SECC+SUS 304	
211	65274-600-810	TENSION BAND ASS'Y	FELT+PBSP	
212	69000-270-040	ASS'Y POLE BASE L	G7	
213	66653-600-011	BASE POLE (L) ASS'Y	ZDC12+SUS	
214	65223-700-330	GUIDE ROLLER ASS'Y	SUS303+POM	
215	69000-270-039	ASS'Y POLE BASE R	G7	
216	66653-600-611	BASE POLE (R) ASS'Y	ZDC12+SUS	
218	67224-602-010	NUT-NYLON	M3x0.5 FE FZY	
219	66674-611-810	SPRING REVIEW ARM	SUS304-WPB	
220	69000-270-042	ASS'Y HOLDER LED	G7	
224	67224-600-010	NUT-ADJUST	C3604BD	
225	66674-611-510	SPRING TORTION A/C	SUS 304 WPB	
228	69000-270-059	ASS'Y A/C HEAD	G7	
230	66614-611-510	HOLDER A/C HEAD	SECC	
231	66674-710-910	SPRING A/C HEAD	SUC WPA	
232	67094-701-410	SCREW A/C HEAD	SUM 32 P15	
233	69000-270-061	ASS'Y F/E HEAD	D-NRu	
236	66674-611-210	SPRING F/E HEAD	SUS304-WPB	
237	66654-605-010	BUSH ROLLER SUPPLY	C3602 BD	
238	65165-700-410	FLANGE UPPER	CERAMIC	

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
239	65224-703-220	ROLLER SUPPLY	POM	
240	65224-703-510	INNER-SUPPLY	C3604BD	
241	67208-213-001	NUT-HEX	2-H3x0.5 FE FZY	
242	66114-600-310	BRKT-JOINT PCB	SPG T1.2	
244	66674-613-110	SPRING IB SLIDE	SUS 304 WPB	
246	65264-601-111	PINCH ROLLER ASS'Y	TCR 65	
247	65253-609-120	PINCH ROLLER ARM ASS'Y	SECC+SUM	
248	66674-611-710	SPRING PINCH ROLLER	SUS304 WPB	
249	65254-608-520	BRAKE MAIN (R) ASS'Y	DURANEX+SUS 420J2	
250	65254-608-620	BRAKE MAIN (L) ASS'Y	DURANEX+SUS 402J2	
251	66674-611-910	SPRING MAIN BRAKE	SUS 304 WPR	
252	65254-608-720	BRAKE SUB (R) ASS'Y	DURANEX+SUS 420J2	
254	65254-608-810	BRAKE SUB (L) ASS'Y	DURANEX+SUS 402J2	
255	66674-612-110	SPRING SUB BRAKE (L)	SUS304-WPB	
264	66604-623-310	HEAD SINK-A	A20179	
265	66604-623-420	HEAD SINK-B	A20179 FLAT	
278	69000-270-113	ASS'Y JOINT BOARD	G7	
403	66604-624-910	HOLDER TR ASS'Y	A20179 TSUS 304	
404	69000-370-013	ASS'Y DRUM MOTOR	G7	
420	66154-600-320	COVER UPPER DRUM	A1050PT0.5	
450	69017-123-310	DRUM ASS'Y	D7PR1A-HC	
451	69000-370-028	ASS'Y BASE DRUM	G7	
452	69000-370-026	ASS'Y LOWER DRUM	D7PRIA-HC	
453	69000-370-024	ASS'Y UPPER DRUM	D7PRIA-HC	
454	69000-270-101	ASS'Y-PRE AMP	D7 PRI	
901	67004-100-810	SCREW-PH	+M2.6x4 FE FZY	
902-1	67004-100-710	SCREW-PH	+M3x4 FE FZY	
903	67008-130-054	SCREW-PH	M3x8 FE FZY-C	
904	67088-820-033	SET SCREW	M2x3 FE FZB	
906	67008-130-081	SCREW-PH	+M3x6 FE FZY	
907-1	67009-130-051	SCREW-PH	+M3x5 FE FZY	
907	67004-100-710	SCREW-PH	+M3x4 FE FZY	
909	66674-608-130	GROUND PLATE TOP	SUS430 T0.25	
911	67008-130-051	SCREW-PH	+M3x5 FE FZY WL	
912	67008-123-181	SCREW-PH	+M2.3x18 FE FZY	
913	67008-126-081	SCREW-PH	+M2.6x8 FE FZY	
914	67108-330-081	SCREW-PH	M3x6TAP TITE	
917	67094-700-820	SCREW-BH	+M3x7.5 BSW3 WPNI	
918	67094-700-710	SCREW-PWH	+M3x8 FE FZY	
923	67094-700-750	SCREW-PWH	M3x12 FE FZY	
924	67094-700-720	SCREW-PWH	M3x8 FE FZY	
951	67304-600-010	WASHER-PLAIN	SPG	
953	67304-103-430	WASHER-PLAIN	3.2x6x0.13 POLY SLIDE	
956	67304-103-410	WASHER-PLAIN	3.2x6x0.5 POLY SLIDE	
957	67334-600-310	SLIT WASHER	PI2.5xPI5.2xT0.5	
958	67334-600-410	SLIT WASHER	PI3.2xPI6xT0.5	
971	67358-103-008	RING-E	PI5 STSC304-CSP	
		Bottom Side Mechanism		
201	66120-600-050	MECHA CHASSIS ASS'Y	SECC+SUM	S.N.A
202	66114-600-010	BRKT A	SECCE 20/20	
203	66114-600-110	BRKT B	SECCE 20/20	
204	66114-611-210	BRACKET D	SPG T1.6	
256	69000-270-022	ASS'Y GEAR LOADING L	G7	
260	69000-270-023	ASS'Y GEAR LOADING R	G7	
263	65153-600-011	IDLER CLUTH ASS'Y	980550 (G-7)	
266	66614-607-820	HOLDER CAP MOTOR	SECC 20/20	
267	64789-052-025	MOTOR CAPSTAN	VCM 4730AL	
268	65124-600-011	CAPSTAN HOLDER ASS'Y	PC 30% GF	
269	65224-602-120	CAPSTAN FLY WHEEL ASS'Y	ZD02+SUS	
270	66614-607-810	BRKT CAP FLY WHEEL	SECCE 20/20	
271	65274-600-811	CAPSTAN BELT	DC-66	
272	65274-600-711	IDLER BELT	CY-65	
273	65253-602-010	PLATE MAIN SLIDE	SECCE 20/20	

* S.N.A.: Service Not Available

6-2. ELECTRICAL REPLACEMENT PARTS LIST

LOCA NO.	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
274	65253-602-110	I.B SLIDE ASS'Y	SECC + SUM + SUS	
275	66834-602-610	SLIDE STOPPER	CY-65	
276	66674-613-110	SPRING I.B SLIDE	SUS 304 WPB	
277	65293-600-011	LOADING MOTOR ASS'Y	960 490 (G-7)	
280	66824-600-810	TIE BAND	NYLON 616 100	
401	66604-622-410	HEAD BRUSH ASS'Y	PIN VRYSH + DEMPER + B.B	
520	66674-608-110	GROUND TOP PLATE	PB SP T0.15	
902-1	67004-100-710	SCREW-PH	+M3x4 FE FZY	
902	67004-101-414	SCREW-BH	M3x4 FE FZY	
905	67004-101-413	SCREW-BH	M3x3 FE FZY	
906	67008-130-081	SCREW-PH	+M3x6 FE FZY	
907	67004-100-710	SCREW-PH	+M3x4 FE FZY	
908	67008-130-051	SCREW-PH	+M3x5 FE FZY	
918	67004-700-710	SCREW-PWH	+M3x6 FE FZY	
953	67304-103-430	WASHER-PLAIN	3.2x6x0.13 POLY SLIDE	
954	67304-800-410	WASHER-PLAIN	P13.1xP18xT0.5	
955	67304-700-810	WASHER PLAIN	42x8x0.5 POLY SLIDE	
956-1	66864-800-410	WASHER-DUST	6x0.5 POLY AMID	
972	67358-104-006	RING-E	P14 SUS 304-CSP	
973	67358-102-506	RING-E	P12.5 STSC 304-CSP	
		Housing Assembly		
501	66122-700-490	HOUSING ASS'Y	F/L SYSTEM (G-7)	
502	69000-470-010	ASS'Y HOUSING CHASSIS	F/L SYSTEM (G-7)	S.N.A
503	66022-600-320	SIDE CHASSIS (R)	ABS G20	
504	66022-600-420	SIDE CHASSIS (L)	ABS G20	
505	66463-601-210	CASSETTE-GUIDE	ABS (BLK)	
508	65104-612-010	RELAY SHAFT	SUM-2	
507	65204-603-010	RELAY GUIDE (R)	DURACON (M90-44)	
508	65204-603-110	RELAY GUIDE (L)	DURACON (M90-44)	
509	65254-609-510	MASK CAM LEVER	DURACON (M90-44)	
510	69000-470-020	ASS'Y-CASSETTE HOLDER	F/L SYSTEM (G7)	
511	66132-600-110	CASSETTE HOLDER	SECC-E20/20 T1.2	
512	66054-604-310	KEY-CASSETTE	DURACON + SUS 304 T0.5	
513	66674-612-610	CASSETTE HOLDER SPR	SVS 304 T0.15	
514	65104-612-110	HOLDER SHAFT (R)	SUM-2 (H)	
515	65104-612-210	HOLDER SHAFT (L)	SUM-2 (H)	
516	65104-612-310	GUIDE PIN (R)	SUM-2 (H)	
517	65104-612-410	GUIDE PIN (L)	SUM-2 (H)	
518	65104-612-510	VERTICAL GUIDE PIN	SUM-2 (H)	
519	66152-600-110	UPPER CHASSIS	SEC-E 20/20 1.0	
520	66674-608-110	GOUND-PLATE TOP	PBSP T0.15	
521	65202-600-220	SIDE ARM (R)	DURACON (M90-44)	
522	66674-616-410	ARM TORSION SPRING R	SWP-B P1.0	
523	65202-600-320	SIDE ARM (L)	DURACON (M90-44)	
524	66674-616-310	ARM TORSION SPRING L	SWP-B P1.0	
525	65203-600-720	ARM GEAR	NYLON 66 (CM300)	
526	66664-605-510	ARM GEAR PIN	SUS 420 J2-8	
527	66674-616-610	EJECT SPRING	SWP-B	
528	65203-600-810	SIDE BEBEL GEAR	DURACON (M90-44)	
529	65203-600-620	TIMING GEAR	DURACON (M90-44)	
530	66153-600-610	GEAR HOLDER PLUTE	SECC-E20/20 T1.0	
531	66463-601-310	LID OPENER	DURACON (M90-44)	
532	66674-616-510	LID OPENER SPING	SWP-B P10.5	
533	67642-601-118	FRONT-MASK	ACRYL	
534	66674-602-810	MASK-SPRING	SUS 304	
535	63569-700-210	REC SAFTY-S/W	MSW-1465 NBKU	
536	63054-220-400	LEAD WIRE	1429 #26 GRAY 385	
537	63054-220-410	LEAD WIRE	1429 #26 BLUE 183	
538	63569-700-310	CASSETTE-S/W	MSW-1429CA	
539	63054-220-420	LEAD WIRE	1429 #26 BROWN 195	
540	63054-220-430	LEAD WIRE	1420 #26 BLACK 180	
541	63005-005-033	PWB-SENSOR (E)	94VO 1.6Tx21.6x25 (G-7)	
542	63054-220-440	LEAD WIRE	1429 #26 BLUE 288	
543	63054-220-450	LEAD WIRE	1429 #26 RED 280	
544	63054-220-460	LEAD WIRE	1429 #26 ORANGE 285	
545	63005-005-032	PWB-SENSOR (S)	94VO 1.6Tx45x35 (G-7)	
546	63054-220-530	WIRE GROUND	1007 #16 75 BLACK	
Q001	62139-701-020	TRANSISTOR	KSR2001	
Q002	62139-701-020	TRANSISTOR	KSR2001	
Q003	62139-401-055	TR-PHOTO	PN202S (R)	
Q004	62139-401-055	TR-PHOTO	PN202S (R)	
910	67108-800-010	SCREW TAP PH	2S-M3x5 FE FZY	
909	67154-101-310	SCREW-TAP PWH	1S-M3x8 FE FZY	
CN208	63053-612-615	LEAD CONNECTOR ASS'Y	1429 #28 RED 150 CN208	

*S.N.A: Service not available.

LOCA NO.	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
	69000-270-085	ASS'Y-JOINT BOARD	D7-NR2	
279	63005-004-064	PWB DECK JOINT (G-7)	94VO 1.6x161x63	S.N.A
IC205	62119-103-616	IC	BA6209	
IC206	62119-103-616	IC	BA6209	
Q209	62139-302-741	TRANSISTOR	KSC945-Y SAMSUNG	
Q204	62139-702-013	TRANSISTOR	KSR 1004	
Q205	62139-103-381	TRANSISTOR	KSA733-Y SAMSUNG	
Q208	62139-103-381	TRANSISTOR	KSA733-Y SAMSUNG	
R248	61048-177-683	R-METAL FILM	RM1/8TS 68K-J	
R249	61048-177-472	R-METAL FILM	RM1/8TS 4.7K-J	
R250	61048-177-222	R-METAL FILM	RM1/8TS 2.2K-J	
R241	61048-177-391	R-METAL FILM	RM1/8TS 390-J	
R242	61048-177-221	R-METAL FILM	RM1/8TS 220-J	
R243	61049-527-689	R-METAL OXIDE	RS2P 6.8-J	
R244	61044-427-339	R-METAL OXIDE	RS1P 3.3-J	
R001	61048-177-100	R-METAL FILM	RM1/8TS 10-J	
R251	61048-177-474	R-METAL FILM	RM1/8TS 470K-J	
R252	61048-177-224	R-METAL FILM	RM1/8TS 220K-J	
C229	61417-109-210	C-CERAMIC HK	DK45F TAPG 50V 0.1M-Z	
C230	61419-109-210	C-CERAMIC HK	CK45F 50V 0.1M-J	
C231	61419-109-210	C-CERAMIC HK	CK45F 50V 0.1M-J	
C232	61417-109-210	C-CERAMIC HK	DK45F TAPG 50V 0.1M-Z	
C233	61609-803-120	C-ELECTROLYTIC NP	CE04W 16V 10M	
C234	61609-401-470	C-ELECTROLYTIC	CE04W 16V 100M	
L201	62429-813-220	COIL-PEAKING	ELD607-SK1-220K	
L202	62429-014-091	COIL-CHOKE	HSB T3-6-15-2	
CN204	63349-082-580	CONNECTOR-WAFER	5268-10A	
CN205	63349-082-620	CONNECTOR-WAFER	5268-13A	
CN206	63349-082-560	CONNECTOR-WAFER	5268-06A	
CN207	63349-082-520	CONNECTOR-WAFER	5268-03A	
CN209	63349-082-530	CONNECTOR-WAFER	5268-04A	
CN210	63349-082-311	CONNECTOR-WAFER	5267-02A (BLK)	
CN211	63349-082-310	CONNECTOR-WAFER	5267-02A	
CN212	63349-082-511	CONNECTOR-WAFER	5268-02A (RED)	
CN213	63349-082-510	CONNECTOR-WAFER	5268-02A	
CN214	63349-082-540	CONNECTOR-WAFER	5268-05A	
	69770-603-204	ASS'Y TIMER: PAL (VX-710)		
R705	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R706	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R707	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R708	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R709	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R710	61048-177-271	R-METAL FILM	RM1/8TS 270-J	
R701	61048-177-473	R-METAL FILM	RM1/8TS 47K-J	
R702	61048-177-473	R-METAL FILM	RM1/8TS 47K-J	
R703	61048-177-473	R-METAL FILM	RM1/8TS 47K-J	
R704	61048-177-473	R-METAL FILM	RM1/8TS 47K-J	
R711	61048-177-473	R-METAL FILM	RM1/8TS 47K-J	
R712	61048-177-473	R-METAL FILM	RM1/8TS 47K-J	
VR701	61203-107-011	VR-ROUND	K121LDG-500KB	
VR702	61203-107-012	VR-ROUND	K121LDG-20KB	
VR703	61243-103-020	VR-SEMI	SR190-47KB	
C701	61417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z	
C703	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C702	61607-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M	
IC701	62109-502-010	IC	MSC 1165RS	
Q701	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
D701	62169-406-482	DIODE	1N4148 SAMSUNG	
D702	62169-406-482	DIODE	1N4148 SAMSUNG	
D703	62169-406-482	DIODE	1N4148 SAMSUNG	
D704	62169-406-482	DIODE	1N4148 SAMSUNG	
D705	62169-406-482	DIODE	1N4148 SAMSUNG	
D706	62169-406-482	DIODE	1N4148 SAMSUNG	
D707	62169-406-482	DIODE	1N4148 SAMSUNG	
D708	62169-406-482	DIODE	1N4148 SAMSUNG	
DT1	62319-013-042	DIGITRON	8-MT-222	
	63005-006-194	PWB-TIMER/FUNC	94VO 1.6Tx122x246 PAL(G-7)	
CN-701	63349-083-181	CONNECTOR WAFER	B13B-PH	
SW709	63519-102-071	SWITCH-SLIDE	KSA 2340A/T0023002-3	
SW701	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW702	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW703	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW704	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW705	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW706	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW708	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW709	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
	64529-312-010	REMOCON MODULE	SV-06A	
	66603-605-610	HOLDER-TIMER	ABS 94HB	
	69780-603-204	ASS'Y FUNCTION: PAL (VX-710)		
SW801	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW802	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW803	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW804	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW805	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW806	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW807	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW808	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW809	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW810	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW811	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW812	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW813	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW814	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW815	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW816	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW817	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
SW818	63599-016-070	SWITCH-TACT	EVQ-QS2 05K	
	67654-710-110	RING POWER	ABS750	
LD801	62309-110-340	LED	GL-3HD7/GL-3HD8	
	69098-600-359	REGULATOR-ASS'Y	PAL (G-7)	OPTION
	69098-600-348	REGULATOR ASS'Y	PAL (G-7) S/D	
C104	61609-144-103	CAPACITOR (E.C)	35V 1000 MICF (S.H) CASE VENT	
C102	61609-144-332	CAPACITOR (E.C)	35V 3300 MICF (S.H) CASE VENT	
C103	61609-132-332	CAPACITOR (E.C)	16V 3300 MICF (S.H)	
C110	61607-402-210	CAPACITOR (E.C)	50V 1MICF (S.H)	
C111	61607-402-210	CAPACITOR (E.C)	50V 1MICF (S.H)	OPTION
C112	61607-402-210	CAPACITOR (E.C)	50V 1MICF (S.H)	OPTION
C109	61607-401-430	CAPACITOR (E.C)	16V 10MICF (S.H)	
C108	61607-122-221	CAPACITOR (E.C)	50V 22MICF (S.H)	
C113	61607-401-479	CAPACITOR (E.C)	16V 47MICF (S.H)	
C115	61607-401-479	CAPACITOR (E.C)	16V 47MICF (S.H)	
C116	61607-122-471	CAPACITOR (E.C)	25V 47MICF (S.H)	
C106	61609-124-473	CAPACITOR (E.C)	50V 47MICF (S.H)	
C117	61609-124-473	CAPACITOR (E.C)	50V 47MICF (S.H)	
C107	61609-124-473	CAPACITOR (E.C)	50V 47MICF (S.H)	
C105	61609-124-471	CAPACITOR (E.C)	100V 47MICF (S.H)	

*S.N.A: Service Not Available

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
C114	61607-401-470	CAPACITOR (E.C)	16V 100MICF (S.H)	
	63005-004-958	PCB	XPC-FR-1 (G-7 PAL)	OPTION
	63005-002-193	PCB	XPC-FR-1 (G7 PAL DUAL)	OPTION
LF101	62429-014-115	LINE FILTER	SQ HL38	
	63379-600-070	POWER TRANS	E160 x 30 (G-CORE) 7107	
		BRKT HEAT SINK	AL T2.0	
	60659-431-573	TAP STUD	SPC T0.5	
	60659-431-574	AC IN COVER	PET T1.0	
	60659-431-575	COVER CAPACITOR	PET T0.8	
	60659-431-576	FUSE COVER	PET T1.0	
	63054-801-140	POWER CORD AC	KKP-419C STOPPER	
	63349-062-410	CONNECTOR WAFER	5267-12A (MOLEX)	
	63354-600-020	CONNECTOR ASS'Y	G-7 PAL	
F102	64709-084-771	FUSE	5 x 20 T2.5A 250V	
F101	64709-084-772	FUSE	5 x 20 T500MA 250V	
	64709-084-773	FUSE CLIP	RBP4-1 1/2H SV9500	
IC101	62119-101-430	I.C	STK5333 (KTS)	
IC102	62109-201-282	I.C	MC7812 (SST)	
Q101	62139-302-748	TRANSISTOR	KSC945-Y (SST)	OPTION
Q102	62139-302-748	TRANSISTOR	KSC945-Y (SST)	
Q103	62139-701-017	TRANSISTOR	KSR1008	
D104	62169-201-060	DIODE	IN4002 (DONG SUNG)	
D102	62169-201-060	DIODE	IN4002 (DONG SUNG)	
D103	62169-406-482	DIODE	IN4148	OPTION
D101	62169-403-850	DIODE	(B.D) RBV402	
ZD101	62169-403-860	DIODE	EQA02-23A (FUJI)	
ZD102	62169-403-870	DIODE	EQA02-07A (FUJI)	
R104	61048-227-102	RESISTOR (M.F)	RM 1/4P 1K-J	
R102	61048-227-102	RESISTOR (M.F)	RM 1/4P 1K-J	
R105	61048-227-102	RESISTOR (M.F)	RM 1/4P 1K-J	
R110	61048-227-103	RESISTOR (M.F)	1/4P 10K ±5%	OPTION
R101	61048-227-103	RESISTOR (M.F)	1/4P 10K ±5%	
R111	61048-227-121	RESISTOR (M.F)	1/4P 120K ±5%	
R112	61048-227-121	RESISTOR (M.F)	1/4P 120K ±5%	
R103	61048-227-182	RESISTOR (M.F)	1/4P 1.8K ±5%	
R108	61048-227-272	RESISTOR (M.F)	1/4P 2.7K ±5%	
R109	61048-227-472	RESISTOR (M.F)	1/4P 4.7K ±5%	
R106	61048-227-561	RESISTOR (M.F)	1/4P 560 ±5%	
R107	61048-227-822	RESISTOR (M.F)	1/4P 8.2K ±5%	
FR102	61099-605-070	FUSEABLE RESISTOR	FR1/4 2.0-J	
FR101	61099-605-071	FUSEABLE RESISTOR	FR1/4 1.2-J	
C101	61409-601-320	CAPACITOR (L.A)	ECK-DNS472ME	
C122	61409-101-360	C-CERAMIC TEMP.	CC45SL 50V 100-J	OPTION
C118	61409-101-440	C-CERAMIC TEMP.	CC45SL 50V 220-J	OPTION
C119	61409-101-120	C-CERAMIC TEMP.	CC45SL 50V 10-J	OPTION
C120	61409-101-120	C-CERAMIC TEMP.	CC45SL 50V 10-J	OPTION
C121	61417-109-210	C-CERAMIC TEMP	CC45SL 50V 0.1u	OPTION
	63519-102-144	SWITCH-SLIDE	SX2-6D	OPTION
F101	64709-084-778	FUSE	5 x 20 T1A 125V	OPTION
IC103	62195-600-007	IC	AN6342N	OPTION

69099-605-100	REMOCON ASS'Y PR/427 (WIL)		
66151-600-310	COVER TOP REMOCON	ABS 94HB BLK	S.N.A
66152-600-620	COVER BUTTOM REMOCON	ABS 94HB BLK	S.N.A
67644-600-120	DOOR BATTERY	ABS 94HB BLK	S.N.A
67613-607-810	INLAY COVER REMOCON	PVC SHEET T0.5	S.N.A
67654-607-920	WINDOW REMOCON	ACRYL	S.N.A
67872-600-310	KEY REMOCON	RUBBER SILICON	S.N.A

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
	66674-611-010	SPRING REMOCON (A)	PBR 2-1/4	S.N.A
	66673-600-510	SPRING (B)	SUS 304 T0.4	S.N.A
	64539-102-311	CERAMIC RESONATOR	CSB 455 EBL	S.N.A
	61409-101-360	C-CERAMIC	CC45SL 100J	S.N.A
	62149-301-431	TRANSISTOR	MSC 1008-Y	S.N.A
	62309-112-030	LED IR	EL-IL2	S.N.A
	62119-601-581	IC	TC9012MF-001	S.N.A
	61018-177-109	RESISTOR	RM 1/8TS 1.0-J	S.N.A
	61602-121-470	C-ELECTROLYTIC	6.3V 4uF (RSS)	S.N.A
	63005-006-187	PWB-REMOCOM		S.N.A
	68623-604-030	BOX REMOCON	ART PAPER	S.N.A
	69702-603-201	ASSY-MAIN B;PAL (G-7W)-A		
		AUDIO-PART, PAL (G-7)-A		
R0504	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R0513	61048-177-123	R-METAL FILM	RM 1/8TS 12K-J	
R0505	61048-177-105	R-METAL FILM	RM 1/8TS 1M-K	OPTION
R0515	61048-177-122	R-METAL FILM	RM 1/8TS 1.2K-J	
R0503	61048-177-151	R-METAL FILM	RM 1/8TS 150-J	
R0501	61048-177-153	R-METAL FILM	RM 1/8TS 15K-J	
R0509	61048-177-182	R-METAL FILM	RM 1/8TS 1.8K-J	
R0514	61048-177-223	R-METAL FILM	RM 1/8TS 22K-J	OPTION
R0511	61048-177-272	R-METAL FILM	RM 1/8TS 2.7K-J	
R0508	61048-177-332	R-METAL FILM	RM 1/8TS 3.3K-J	
R0502	61048-177-334	R-METAL FILM	RM 1/8TS 330K-J	
R0507	61048-177-473	R-METAL FILM	RM 1/8TS 47K-J	
R0506	61048-177-513	R-METAL FILM	RM 1/8TS 51K-J	
R0512	61048-177-563	R-METAL FILM	RM 1/8TS 56K-J	
R0516	61048-177-683	R-METAL FILM	RM 1/8TS 68K-J	OPTION
R0517	61048-177-683	R-METAL FILM	RM 1/8TS 68K-J	
R0519	61048-177-683	R-METAL FILM	RM 1/8TS 68K-J	
VR0501	61246-105-103	VR-SEMI	RH0615C 10KB	
VR0502	61246-105-224	VR-SEMI	RH0615C 220KB	
C0521	61407-101-440	C-CERAMIC TEMP	CC45 SL TAPG 50V 220-J	
C0516	61507-121-340	C-POLYESTER	CQ921M TAPG 100V 0.001M-K	
C0502	61507-121-370	C-POLYESTER	CQ921M TAPG 100V 0.0018M-K	
C0519	61507-121-430	C-POLYESTER	CQ921M TAPG 100V 0.0047M-K	
C0511	61507-121-451	C-POLYESTER	CQ921M TAPG 100V 0.0068M-J	
C0503	61507-121-470	C-POLYESTER	CQ921M TAPG 100V 0.01M-K	
C0518	61507-121-470	C-POLYESTER	CQ921M TAPG 100V 0.01M-K	
C0520	61507-121-480	C-POLYESTER	CQ921M TAPG 100V 0.015M-K	
C0508	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C0504	61607-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M	
C0506	61607-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M	
C0515	61607-401-450	C-ELECTROLYTIC	CE04W TAPG 16V 33M	
C0507	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C0512	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C0513	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C0501	61607-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	
C0510	61607-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	
C0514	61607-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	
C0517	61607-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	
C0505	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
IC0502	62109-301-841	IC	UPC1513	
IC0501	62119-103-620	IC	BA7751LS	

*S.N.A: Service Not Available

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
L0503	62427-812-101	COIL-PEAKING	EL0606RA-101J (100UH) TAPG	
L0501	62429-010-280	COIL-PEAKING	BOAM-22MH	
L0502	62429-010-280	COIL-PEAKING	BOAM-22MH	
L0504	62429-014-122	COIL-OSC	70KHz 9V BLOCK	
	63054-211-070	WIRE-GND ASSY	1007 #18 120 BLK AA	
	63364-113-621	CONNECTOR-TERMINAL	5033-4T	
	63054-211-090	WIRE-GND ASSY	1007 #18 190 BLK AA	
	63304-113-621	CONNECTOR-TERMINAL	5033-4T	
	63054-211-090	WIRE-GND ASSY	1007 #18 BLK AA	
	63304-113-621	CONNECTOR-TERMINAL	5033-4T	
	63054-211-090	WIRE-GND ASSY	1007 #18 190 BLK AA	
	63304-113-621	CONNECTOR-TERMINAL	5033-4T	
	63054-301-690	WIRE-SHIELD	1533 S26 AA BLU 220	
	63054-301-690	WIRE-SHIELD	1533 S26 AA BLU 220	
	63124-103-330	PIN-TEST POINT	BSW 1/4H P11.0SN	
CN302	63349-062-370	CONNECTOR WAFER	5267-06A	
CN301	63349-062-410	CONNECTOR WAFER	5267-12A	
		VIDEO-PART, PAL (G-7)-A		
R3100	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	
R0302	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0308	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0309	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0325	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R3106	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R3070	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0371	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0372	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0373	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0374	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0375	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R3105	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0338	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0333	61048-177-104	R-METAL FILM	RM 1/8TS 100K-J	
R0387	61048-177-104	R-METAL FILM	RM 1/8TS 100K-J	
R0301	61048-177-122	R-METAL FILM	RM 1/8TS 1.2K-J	
R0382	61048-177-122	R-METAL FILM	RM 1/8TS 1.2K-J	
R0344	61048-177-123	R-METAL FILM	RM 1/8TS 12K-J	
R0342	61048-177-123	R-METAL FILM	RM 1/8TS 12K-J	
R0311	61048-177-222	R-METAL FILM	RM 1/8TS 2.2K-J	
R0336	61048-177-153	R-METAL FILM	RM 1/8TS 15K-J	
R0364	61048-177-153	R-METAL FILM	RM 1/8TS 15K-J	
R0376	61048-177-153	R-METAL FILM	RM 1/8TS 15K-J	
R0304	61048-177-153	R-METAL FILM	RM 1/8TS 15K-J	
R0351	61048-177-181	R-METAL FILM	RM 1/8TS 180-J	
R3102	61048-177-181	R-METAL FILM	RM 1/8TS 180-J	
R0347	61048-177-182	R-METAL FILM	RM 1/8TS 1.8K-J	
R0378	61048-177-182	R-METAL FILM	RM 1/8TS 1.8K-J	
R0386	61048-177-182	R-METAL FILM	RM 1/8TS 1.8K-J	
R0349	61048-177-182	R-METAL FILM	RM 1/8TS 1.8K-J	
R0354	61048-177-182	R-METAL FILM	RM 1/8TS 1.8K-J	
R0384	61048-177-183	R-METAL FILM	RM 1/8TS 18K-J	
R0317	61048-177-202	R-METAL FILM	RM 1/8TS 2K-J	
R0323	61048-177-202	R-METAL FILM	RM 1/8TS 2K-J	
R0324	61048-177-202	R-METAL FILM	RM 1/8TS 2K-J	
R0366	61048-177-202	R-METAL FILM	RM 1/8TS 2K-J	
R0307	61048-177-221	R-METAL FILM	RM 1/8TS 220-J	
R0352	61048-177-221	R-METAL FILM	RM 1/8TS 220-J	
R0380	61048-177-221	R-METAL FILM	RM 1/8TS 220-J	
R0321	61048-177-222	R-METAL FILM	RM 1/8TS 2.2K-J	
R0312	61048-177-222	R-METAL FILM	RM 1/8TS 2.2K-J	
R0337	61048-177-222	R-METAL FILM	RM 1/8TS 2.2K-J	
R0334	61048-177-223	R-METAL FILM	RM 1/8TS 22K-J	
R0385	61048-177-223	R-METAL FILM	RM 1/8TS 22K-J	
R0306	61048-177-271	R-METAL FILM	RM 1/8TS 270-J	
R0381	61048-177-271	R-METAL FILM	RM 1/8TS 270-J	
R0348	61048-177-151	R-METAL FILM	RM 1/8TS 150-J	
R0316	61048-177-272	R-METAL FILM	RM 1/8TS 2.7K-J	
R0343	61048-177-272	R-METAL FILM	RM 1/8TS 2.7K-J	
R0356	61048-177-274	R-METAL FILM	RM 1/8TS 270K-J	
R0358	61048-177-302	R-METAL FILM	RM 1/8TS 3K-J	
R0361	61048-177-302	R-METAL FILM	RM 1/8TS 3K-J	
R0327	61048-177-332	R-METAL FILM	RM 1/8TS 3.3K-J	
R0335	61048-177-332	R-METAL FILM	RM 1/8TS 3.3K-J	
R0303	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R0362	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R0367	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R0369	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R0339	61048-177-361	R-METAL FILM	RM 1/8TS 360-J	
R0365	61048-177-392	R-METAL FILM	RM 1/8TS 3.9K-J	
R0305	61048-177-471	R-METAL FILM	RM 1/8TS 470-J	
R0313	61048-177-471	R-METAL FILM	RM 1/8TS 470-J	
R0350	61048-177-471	R-METAL FILM	RM 1/8TS 470-J	
R0326	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R0377	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R0383	61048-177-473	R-METAL FILM	RM 1/8TS 47K-J	
R0319	61048-177-474	R-METAL FILM	RM 1/8TS 470K-J	
R0341	61048-177-474	R-METAL FILM	RM 1/8TS 470K-J	
R0368	61048-177-474	R-METAL FILM	RM 1/8TS 470K-J	
R0320	61048-177-511	R-METAL FILM	RM 1/8TS 510-J	
R0310	61048-177-561	R-METAL FILM	RM 1/8TS 560-J	
R0345	61048-177-562	R-METAL FILM	RM 1/8TS 5.6K-J	
R0340	61048-177-564	R-METAL FILM	RM 1/8TS 560K-J	
R0360	61048-177-684	R-METAL FILM	RM 1/8TS 680K-J	
R0314	61048-177-681	R-METAL FILM	RM 1/8TS 680-J	
R0357	61048-177-681	R-METAL FILM	RM 1/8TS 680-J	
R0363	61048-177-682	R-METAL FILM	RM 1/8TS 6.8K-J	
R3110	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R3111	61048-177-823	R-METAL FILM	RM 1/8TS 82K-J	
R0315	61048-177-821	R-METAL FILM	RM 1/8TS 820-J	
R0353	61048-177-821	R-METAL FILM	RM 1/8TS 820-J	
R0379	61048-177-821	R-METAL FILM	RM 1/8TS 820-J	
R3103	61048-177-821	R-METAL FILM	RM 1/8TS 820-J	
R3101	61048-177-821	R-METAL FILM	RM 1/8TS 820-J	
R0322	61048-177-822	R-METAL FILM	RM 1/8TS 8.2K-J	
R0346	61048-177-822	R-METAL FILM	RM 1/8TS 8.2K-J	
R0359	61048-177-823	R-METAL FILM	RM 1/8TS 82K-J	
R0318	61048-177-471	R-METAL FILM	RM 1/8TS 470-J	
VR0303	61246-105-103	VR-SEMI	RH0615C 10KB	
VR0304	61246-105-103	VR-SEMI	RH0615C 10KB	
VR0305	61246-105-103	VR-SEMI	RH0615C 10KB	
VR0306	61246-105-103	VR-SEMI	RH0615C 10KB	
VR0307	61246-105-103	VR-SEMI	RH0615C 10KB	
VR0308	61246-105-103	VR-SEMI	RH0615C 10KB	
VR0302	61246-105-472	VR-SEMI	RH0615C 4.7KB	
VR0309	61246-105-472	VR-SEMI	RH0615C 4.7KB	
VR0301	61246-105-472	VR-SEMI	RH0615C 4.7KB	
C0322	61407-101-240	C-CERAMIC TEMP	CC45SL TAPG 50V 33-J	
C0315	61407-101-360	C-CERAMIC TEMP	CC45SL TAPG 50V 100-J	
C0366	61407-101-360	C-CERAMIC TEMP	CC45SL TAPG 50V 100-J	
C0389	61407-101-360	C-CERAMIC TEMP	CC45SL TAPG 50V 100-J	
C0312	61407-101-380	C-CERAMIC TEMP	CC45SL TAPG 50V 120-J	
C0330	61407-101-380	C-CERAMIC TEMP	CC45SL TAPG 50V 120-J	
C3100	61407-101-730	C-CERAMIC TEMP	CC45SL TAPG 50V 150-J	
C0382	61407-101-420	C-CERAMIC TEMP	CC45SL TAPG 50V 180-J	
C3121	61407-101-470	C-CERAMIC TEMP	CC45SL TAPG 50V 300-J	
C0356	61407-101-510	C-CERAMIC TEMP	CC45SL TAPG 50V 470-J	
C0340	61407-101-511	C-CERAMIC TEMP	CC45SL TAPG 50V 510-J	
C0365	61407-101-730	C-CERAMIC TEMP	CC45SL TAPG 50V 150-K	
C0316	61407-105-250	C-CERAMIC TEMP	CC45CH TAPG 50V 39-J	
C0341	61407-105-250	C-CERAMIC TEMP	CC45CH TAPG 50V 39-J	
C0328	61407-105-280	C-CERAMIC TEMP	CC45CH TAPG 50V 47-J	

*S.N.A: Service Not Available

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
C0377	61407-105-270	C-CERAMIC TEMP	CC45CH TAPG 50V 27-J	
C0323	61407-105-300	C-CERAMIC TEMP	CC45CH TAPG 50V 68-J	
C0350	61407-105-300	C-CERAMIC TEMP	CC45CH TAPG 50V 68-J	
C0361	61407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	
C0351	61407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	
C0303	61407-105-250	C-CERAMIC TEMP	CC45CH TAPG 50V 39-J	
C0399	61407-105-320	C-CERAMIC TEMP*	CC45CH TAPG 50V 82-J	
C0310	61407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	
C0327	61407-105-680	C-CERAMIC TEMP	CC45CH TAPG 50V 5-D	
C0370	61407-105-690	C-CERAMIC TEMP	CC45CH TAPG 50V 51-J	
C0378	61407-105-690	C-CERAMIC TEMP	CC45CH TAPG 50V 51-J	
C0329	61407-105-850	C-CERAMIC TEMP	CC45CH TAPG 50V 8-D	
C0373	61407-105-880	C-CERAMIC TEMP	CC45CH TAPG 50V 10-D	
C0302	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0304	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0307	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0309	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0311	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0313	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0314	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0317	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0318	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0320	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0331	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0333	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0337	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0342	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0348	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0349	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0358	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0359	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0360	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0363	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0374	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0379	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0380	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0381	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0383	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0385	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0386	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0387	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0388	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0391	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0393	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0394	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0396	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0397	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C3101	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C3103	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C0376	61507-121-390	C-POLYESTER	CO921M TAPG 100V 0.0022M-K	
C0372	61507-121-410	C-POLYESTER	CO921M TAPG 50V 0.0033M-K	
C0306	61507-121-431	C-POLYESTER	CO921M TAPG 100V 0.0047M-J	
C0364	61507-121-460	C-POLYESTER	CO921M TAPG 100V 0.0082M-K	
C3102	61507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-J	
C0395	61507-121-671	C-POLYESTER	CO921M TAPG 100V 0.068M-J	
C0339	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C0346	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C0354	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C0368	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C3104	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C3106	61607-401-450	C-ELECTROLYTIC	CE04W TAPG 16V 33M	
C0347	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C0332	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C0308	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C0334	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C3105	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C0324	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C3120	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M	
C0357	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M	
C0392	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M	
C3121	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M	
C3122	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M	
C0335	61607-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	
C0301	61607-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	
C0353	61607-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	
C0326	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M	
C0355	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M	
C0325	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M	
C0338	61607-402-421	C-ELECTROLYTIC	CE04W TAPG 50V 0.22M	
C0367	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C0371	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C0375	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C0384	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C0398	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C0390	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C0321	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C0336	61607-402-220	C-ELECTROLYTIC	CE04W TAPG 50V 2.2M	
C0352	61607-402-220	C-ELECTROLYTIC	CE04W TAPG 50V 2.2M	
C0369	61607-402-421	C-ELECTROLYTIC	CE04W TAPG 50V 0.22M	
IC0304	62119-101-735	IC	TA8644N	
IC0303	62119-101-742	IC	TA8605N	
IC0302	62119-101-743	IC	TA8606N	
IC0301	62119-101-744	IC	TA8607P	
IC0305	62119-101-755	IC	MSM6965-3RS	
IC0306	62119-103-614	IC	BA7007-L	
Q0302	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
C0319	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M	
Q0303	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
Q0304	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
Q0305	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
Q0307	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
Q0301	62137-302-740	TRANSISTOR	KSC 945-Y TAPG	
Q0306	62137-302-740	TRANSISTOR	KSC 945-Y TAPG	
Q0308	62137-302-740	TRANSISTOR	KSC 945-Y TAPG	
Q0309	62137-302-740	TRANSISTOR	KSC 945-Y TAPG	
Q0311	62137-302-740	TRANSISTOR	KSC 945-Y TAPG	
Q0312	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
D0302	62169-406-482	DIODE	1N4148 SAMSUNG	
D0303	62169-406-482	DIODE	1N4148 SAMSUNG	
D0304	62169-406-482	DIODE	1N4148 SAMSUNG	
D0305	62169-406-482	DIODE	1N4148 SAMSUNG	
L0317	62427-812-100	COIL-PEAKING	EL0606RA-100J (10UH) TAPG	
L0311	62427-812-121	COIL-PEAKING	EL0606RA-121J (120UH) TAPG	
L0318	62427-812-150	COIL-PEAKING	EL0606RA-150J (15UH) TAPG	
L0316	62427-812-180	COIL-PEAKING	EL0606RA-180J (18UH) TAPG	
L0309	62427-812-181	COIL-PEAKING	EL0606RA 181-J (180UH) TAPG	
L0312	62427-812-220	COIL-PEAKING	EL0606RA-220J (22UH) TAPG	
L0302	62427-812-221	COIL-PEAKING	EL0606RA-221J (220UH) TAPG	
L0315	62427-812-221	COIL-PEAKING	EL0606RA-221J (220UH) TAPG	

*S.N.A: Service Not Available

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
L0308	62427-812-331	COIL-PEAKING	EL0606RA-331J (330UH) TAPG	
L0303	62427-812-470	COIL-PEAKING	EL0606RA-470J (47UH) TAPG	
L0307	62427-812-470	COIL-PEAKING	EL0606RA-470J (47UH) TAPG	
L0306	62427 812 470	COIL-PEAKING	EL0606RA 470J (47UH) TAPG	
L0301	62427-812-470	COIL-PEAKING	EL0606RA-470J (47UH) TAPG	
L0314	62427-812-680	COIL-PEAKING	EL0606RA-680J (68UH) TAPG	
L0313	62427-812-820	COIL-PEAKING	EL0606RA-82UH TAPG	
L0304	62427-812-829	COIL-PEAKING	EL0606 RA-8.2UH TAPG	
L0305	62427-814-101	COIL-PEAKING AXIAL	BAL03 TAPG 101K	
L0319	62427-814-101	COIL-PEAKING AXIAL	BAL03 TAPG 101K	
FL0305	62429-014-112	COILTRAP (1/2 FH)	7.8K TUNING-COIL	
FL0304	62469-008-011	DELAY LINE	MS-31PC-5K	
	63005-008-178	PWB-MAIN (B)	94VO 1.6 x 156 x 210 PAL G-7	
	63124-103-330	PIN-TEST POINT	BSW 1/4H P11.0 SN	
CN303	63349-062-360	CONNECTOR WAFER	5267-07A	
CN304	63349-062-380	CONNECTOR WAFER	5267-09A	
X-TAL2	64529-310-010	FILTER-CERAMIC	SFE 4.5 MB	
FL0303	64529-401-200	FILTER-LC	SFB 4141	
FL0302	64529-401-210	FILTER-LC	SEL 4473	
FL0301	64529-431-085	FILTER-LC	SBP 630-T2	
X-TAL1	64539-012-040	CRYSTAL	4.433619MHz	
L0320	62427-812-101	COIL-PEAKING	EL0606RA-101J (100UH) TAPG	

69757-603-201 ASSY-MAIN A: PAL (G-7W)-A

SERVO-PAPT: PAL (G-7)-A

R222	61048-177-102	R-METAL FILM	RM1/8TS 1K-J	
R202	61048-177-102	R-METAL FILM	RM1/8TS 1K-J	
R244	61048-177-102	R-METAL FILM	RM1/8TS 1K-J	
R228	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R230	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R232	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R234	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R242	61048-177-103	R-METAL FILM	RM1/8TS 10K-J	
R227	61048-177-104	R-METAL FILM	RM1/8TS 100K-J	
R236	61048-177-105	R-METAL FILM	RM1/8TS 1M-K	
R216	61048-177-153	R-METAL FILM	RM1/8TS 15K-J	
R221	61048-177-153	R-METAL FILM	RM1/8TS 15K-J	
R233	61048-177-273	R-METAL FILM	RM1/8TS 27K-J	
R219	61048-177-274	R-METAL FILM	RM1/8TS 270K-J	
R241	61048-177-302	R-METAL FILM	RM1/8TS 3K-J	
R235	61048-177-303	R-METAL FILM	RM1/8TS 30K-J	
R205	61048-177-331	R-METAL FILM	RM1/8TS 330-J	
R218	61048-177-333	R-METAL FILM	RM1/8TS 33K-J	
R217	61048-177-333	R-METAL FILM	RM1/8TS 33K-J	
R214	61048-177-334	R-METAL FILM	RM1/8TS 330K-J	
R215	61048-177-334	R-METAL FILM	RM1/8TS 330K-J	
R231	61048-177-392	R-METAL FILM	RM1/8TS 3.9K-J	
R238	61048-177-471	R-METAL FILM	RM1/8TS 470-J	
R245	61048-177-472	R-METAL FILM	RM1/8TS 4.7K-J	
R239	61048-177-473	R-METAL FILM	RM1/8TS 47K-J	
R220	61048-177-474	R-METAL FILM	RM1/8TS 470K-J	
R237	61048-177-474	R-METAL FILM	RM1/8TS 470K-J	
R247	61048-177-474	R-METAL FILM	RM1/8TS 470K-J	
R201	61048-177-512	R-METAL FILM	RM1/8TS 5.1K-J	
R204	61048-177-512	R-METAL FILM	RM1/8TS 5.1K-J	
R240	61048-177-512	R-METAL FILM	RM1/8TS 5.1K-J	
R209	61048-177-563	R-METAL FILM	RM1/8TS 56K-J	
R210	61048-177-563	R-METAL FILM	RM1/8TS 56K-J	
R224	61048-177-563	R-METAL FILM	RM1/8TS 56K-J	
R225	61048-177-563	R-METAL FILM	RM1/8TS 56K-J	
R208	61048-177-682	R-METAL FILM	RM1/8TS 6.8K-J	
R226	61048-177-682	R-METAL FILM	RM1/8TS 6.8K-J	
R223	61048-177-684	R-METAL FILM	RM1/8TS 680K-J	
R211	61048-177-820	R-METAL FILM	RM1/8TS 82-J	
R229	61048-277-101	R-METAL FILM	RM1/4T 100-J	
VR201	61246-105-473	VR-SEMI	RH0615C 47KB	
VR202	61246-105-473	VR-SEMI	RH0615C 47KB	
VR203	61246-105-474	VR-SEMI	RH0615C 470KB	
C207	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C222	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C218	61417-109-210	C-CERAMIC HK	CK45F TAPG 50V 0.1M-Z	
C231	61507-121-390	C-POLYESTER	CO921M TAPG 100V 0.0022M-K	
C212	61507-121-420	C-POLTESTER	CO921M TAPG 100V 392-K	
C223	61507-121-420	C-POLTESTER	CO921M TAPG 100V 392-K	
C236	61507-121-420	C-POLTESTER	CO921M TAPG 100V 392-K	
C213	61507-121-440	C-POLYESTER	CO921M TAPG 100V 0.0056M-K	
C230	61507-121-440	C-POLYESTER	CO921M TAPG 100V 0.0056M-K	
C208	61507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C241	61507-121-510	C-POLYESTER	CO921M TAPG 100V 0.022M-K	
C205	61507-121-520	C-POLYESTER	CO921M TAPG 50V 0.027M-K	
C209	61507-121-520	C-POLYESTER	CO921M TAPG 50V 0.027M-K	
C210	61507-121-520	C-POLYESTER	CO921M TAPG 50V 0.027M-K	
C209	61507-121-560	C-POLYESTER	CO921M TAPG 50V 0.047M-K	
C210	61507-121-560	C-POLYESTER	CO921M TAPG 50V 0.047M-K	
C203	61507-121-570	C-POLYESTER	CO921M TAPG 100V 0.068M-K	
C216	61507-121-630	C-POLYESTER	CO921M TAPG 100V 0.012M-K	
C202	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C211	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C224	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C226	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C227	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C228	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C201	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C237	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C225	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M	
C217	61607-802-101	C-ELECTROLYTIC NP	CE04W TAPG 16V 100M	
C215	61607-803-120	C-ELECTROLYTIC NP	CE04W TAPG 16V 10M	
C204	61607-803-210	C-ELECTROLYTIC NP	CE04W TAPG 50V 1M	
C219	61607-803-210	C-ELECTROLYTIC NP	CE04W TAPG 50V 1M	
IC203	62119-101-746	IC	TA 8617S	
IC204	62119-101-751	IC	TD62565S	
IC201	62119-101-756	IC	SD3624A	
IC202	62119-103-602	IC	BA738	
Q203	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
Q206	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
Q200	62137-302-740	TRANSISTOR	KSC 945-Y TAPG	
Q201	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
Q202	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
D201	62169-406-482	DIODE	1N4148 SAMSUNG	
D202	62169-406-482	DIODE	1N4148 SAMSUNG	

*S.N.A: Service Not Available

LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
D203	62169-406-482	DIODE	1N4148 SAMSUNG	
D204	62169-406-482	DIODE	1N4148 SAMSUNG	
	63005-006-176	PWB-MAIN(A)	94V0 1.6 x 247 x 295 PAL-7	
	63124-103-330	PIN-TEST POINT	BSW V4H P1.0 SN	
CN203	63349-062-370	CONNECTOR WAFER	5267-06A	
	66462-602-110	CONNECTOR BOARD	ABS 94V0 (VX-710)	
		SYSCON-PART, PAL(G-7)-A		
R607	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R608	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R622	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R605	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R606	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	OPTION
R613	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R614	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R634	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R631	61048-177-123	R-METAL FILM	RM 1/8TS 12K-J	
R627	61048-177-154	R-METAL FILM	RM 1/8TS 150K-J	
R636	61048-177-221	R-METAL FILM	RM 1/8TS 220-J	
R632	61048-177-273	R-METAL FILM	RM 1/8TS 27K-J	
R633	61048-177-273	R-METAL FILM	RM 1/8TS 27K-J	
R616	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R617	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R618	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R619	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R620	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R621	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R623	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R635	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R611	61048-177-334	R-METAL FILM	RM 1/8TS 330K-J	
R601	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R602	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R603	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R604	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R610	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R624	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R625	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R626	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R629	61048-177-472	R-METAL FILM	RM 1/8TS 4.7K-J	
R609	61048-177-473	R-METAL FILM	RM 1/8TS 47K-J	
R637	61048-177-473	R-METAL FILM	RM 1/8TS 47K-J	
R638	61048-177-562	R-METAL FILM	RM 1/8TS 5.6K-J	
R639	61048-177-562	R-METAL FILM	RM 1/8TS 5.6K-J	
R628	61048-177-823	R-METAL FILM	RM 1/8TS 82K-J	
R615	61048-277-330	R-METAL FILM	RM 1/4T 33-J	
C607	61417-109-040	C-CERAMIC HK	CK45F TAPG 50V 0.001M	
C602	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C603	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C608	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C609	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C610	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C611	61417-109-200	C-CERAMIC HK	CK45F TAPG 50V 0.047M-Z	
C604	61417-109-210	C-CERAMIC HK	CK45F TAPG 50V 0.1M-Z	
C606	61417-109-210	C-CERAMIC HK	CK45F TAPG 50V 0.1M-Z	
C612	61607-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M	
C601	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M	
C614	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
C613	61609-401-472	C-ELECTROLYTIC	CE04W 10V 4700M	
IC602	62119-101-025	IC	CXK1005P	
IC601	62109-321-053	IC	μPD 75104 CW-072	
IC603	62119-401-281	IC	KA-2103LN	
Q603	62137-301-900	TRANSISTOR	KSR 838-Y TAPG	
Q601	62137-701-010	TRANSISTOR	KSR 1001 TAPG	
Q602	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
D601	62169-406-482	DIODE	1N4148 SAMSUNG	
D602	62169-406-482	DIODE	1N4148 SAMSUNG	

LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
D603	62169-406-482	DIODE	1N4148 SAMSUNG	
D604	62169-406-482	DIODE	1N4148 SAMSUNG	
D605	62169-406-482	DIODE	1N4148 SAMSUNG	
	63054-222-180	WIRE-JUMPER (H-WRAP)	1007 #26-SOLD WHT 180	
CN601	63349-082-410	CONNECTOR WAFER	5267-12A	
XT601	64539-102-012	CERAMIC RESONATOR	FCR 4.0MC	
		TUNER-PART, PAL (G-7)-A		
R433	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	OPTION
R434	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	OPTION
R408	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	
R412	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	
R437	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	
R448	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	
R450	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R418	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R427	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R444	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R440	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	OPTION
R441	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	OPTION
R445	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R422	61048-177-104	R-METAL FILM	RM 1/8TS 100K-J	
R446	61048-177-122	R-METAL FILM	RM 1/8TS 1.2K-J	
R413	61048-177-122	R-METAL FILM	RM 1/8TS 1.2K-J	
R428	61048-177-123	R-METAL FILM	RM 1/8TS 12K-J	
R402	61048-177-221	R-METAL FILM	RM 1/8TS 220-J	
R449	61048-177-272	R-METAL FILM	RM 1/8TS 2.7K-J	
R421	61048-177-183	R-METAL FILM	RM 1/8TS 18K-J	
R403	61048-177-202	R-METAL FILM	RM 1/8TS 2K-J	
R442	61048-177-220	R-METAL FILM	RM 1/8TS 22-J	
R417	61048-177-221	R-METAL FILM	RM 1/8TS 220-J	
R451	61048-177-152	R-METAL FILM	RM 1/8TS 1.5K-J	
R414	61048-177-270	R-METAL FILM	RM 1/8TS 27-J	
R409	61048-177-331	R-METAL FILM	RM 1/8TS 330-J	
R415	61048-177-332	R-METAL FILM	RM 1/8TS 3.3K-J	
R429	61048-177-333	R-METAL FILM	RM 1/8TS 33K-J	
R416	61048-177-393	R-METAL FILM	RM 1/8TS 39K-J	
R423	61048-177-393	R-METAL FILM	RM 1/8TS 39K-J	
R420	61048-177-510	R-METAL FILM	RM 1/8TS 51-J	
R406	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R425	61048-177-512	R-METAL FILM	RM 1/8TS 5.1K-J	
R443	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	
R432	61048-177-561	R-METAL FILM	RM 1/8TS 560-J	
R407	61048-177-680	R-METAL FILM	RM 1/8TS 68-J	
R411	61048-177-681	R-METAL FILM	RM 1/8TS 680-J	
R410	61048-177-562	R-METAL FILM	RM 1/8TS 5.6K-J	
R424	61048-177-683	R-METAL FILM	RM 1/8TS 68K-J	
R430	61048-177-683	R-METAL FILM	RM 1/8TS 68K-J	
R405	61048-177-750	R-METAL FILM	RM 1/8TS 75-J	
R435	61048-177-750	R-METAL FILM	RM 1/8TS 75-J	OPTION
R431	61048-177-911	R-METAL FILM	RM 1/8TS 910-J	
R436	61049-327-680	R-METAL OXIDE	RS 2P 68-J	OPTION
VR401	61246-105-103	VR-SEMI	RH0615C 10KB	
C416	61407-101-121	C-CERAMIC TEMP	CC45SL TAPG 50V 10-D	
C405	61407-101-200	C-CERAMIC TEMP	CC45SL TAPG 50V 22-J	
C408	61407-101-230	C-CERAMIC TEMP	CC45SL TAPG 50V 27-J	
C435	61407-101-230	C-CERAMIC TEMP	CC45SL TAPG 50V 27-J	
C404	61407-105-250	C-CERAMIC TEMP	CC45SL TAPG 50V 39-J	
C425	61407-105-640	C-CERAMIC TEMP	CC45CH TAPG 50V 2-C	
C403	61407-105-230	C-CERAMIC TEMP	CC45SL TAPG 50V 27-J	
C411	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C414	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C418	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C412	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C434	61417-109-210	C-CERAMIC HK	CK45F TAPG 50V 0.1M-Z	

*S.N.A: Service Not Available.

LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
C423	61607-121-450	C-POLYESTER	CO921M TAPG 50V 0.0068M-K	
C401	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C406	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
C407	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	OPTION
C424	61607-401-430	C-ELECTROLYTIC	CE04W TPAG 25V 10M	OPTION
C422	61607-401-430	C-ELECTROLYTIC	CE04W TPAG 25V 10M	
C432	61607-401-430	C-ELECTROLYTIC	CE04W TPAG 25V 10M	
C410	61607-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M	
C433	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C413	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M	
C421	61607-402-210	C-ELECTROLYTIC	CE04W TPAG 50V 1M	
C410	61607-401-220	C-ELECTROLYTIC	CE04W TAPG 50V 2.2M	
C417	61607-402-421	C-ELECTROLYTIC	CE04W TAPG 25V 0.22M	
C426	61609-401-500	C-ELECTROLYTIC	CE04W 16V 470M	
C402	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C409	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C419	61419-109-220	C-CERAMIC HK	CK45F 50V 0.022M-Z	
C420	61419-109-220	C-CERAMIC HK	CK45F 50V 0.022M-Z	
C427	61419-109-200	C-CERAMIC HK	CK45F 50V 0.047M-Z	
C430	61417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
C415	61609-401-500	C-ELECTROLYTIC	CE04W 16V 470M	
IC401	62119-101-745	IC	TA8611N	
IC403	62119-101-748	IC	TA7348P	
IC404	62119-101-748	IC	TA7348P	
IC402	62119-501-560	IC-L	KA33V	
Q402	62137-103-380	TRANSISTOR	KSA 733-Y TAPG	
Q408	62137-301-900	TRANSISTOR	KSC 838-Y TAPG	
Q403	62137-302-740	TRANSISTOR	KSC 945-Y TPAG	
Q405	62137-701-013	TRANSISTOR	KSR 1004 TAPG	OPTION
Q407	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
Q406	62139-301-080	TRANSISTOR	KTC 388ATM	
Q404	62147-101-950	TRANSISTOR	KSA 643-Y TAPG	OPTION
D401	62169-406-482	DIODE	1N4148 SAMSUNG	OPTION
L401	62427-812-829	COIL-PEAKING	EL0606RA-8.2uH	
L406	62427-812-220	COIL-PEAKING	EL0606RA-220J (22UH) TAPG	
L404	62427-812-229	COIL-PEAKING	EL0606RA-2R2K (2.2UH) TAPG	
L402	62427-812-270	COIL-PEAKING	EL0606RA-270J (27UH) TAPG	
L407	62427-814-100	COIL-PEAKING	BAL03 TAPG 100K	
L403	62429-811-010	COIL-PEAKING	DAESIN 10Hz R55K	
FL406	62429-832-010	COIL-TRAP	DAS 32.4MHz (G-7)	
FL407	62429-832-020	COIL-TRAP	DAISIN 40.4MHz (G-7)	
FL410	62429-832-080	COIL VARIBLE	1.2UH PSF MATCH	
FL405	62719-049-012	TRANS-RESONANT (TH)	40MHz V-DET	
FL404	62719-049-013	TRANS-AFT (T2)	40MHz AFT-BAL	
FL403	62719-049-014	TRANS-COIL (T3)	5.5M TUNING-COIL 5.5M	
	63054-401-670	CABLE-COAXIAL ASS'Y	UL B65 AWG 30 BLK 100	
	63124-103-330	PIN-TEST POINT	BSW V4H P1.0 SN	
	63144-010-060	HOLDER JACK	G-7W	
	64519-902-026	TUNER	[illegible]985 PLE G-7 CABLE	
FL408	64529-310-012	CERAMIC-FILTER	[illegible]MB	
FL301	64529-401-183	FILTER-LC	[illegible]140A	
FL402	64529-418-041	SAW FILTER	TSF-1303	
FL401	64529-421-021	CERAMIC-TRAP	TPS-5.5MB	
	64543-803-110	SHIELD CASE BODY	SPTE T0.25 (G-7W PAL)	
	64543-803-410	SHIELD CASE TOP	SPTE T0.25 (G-7W PAL)	
	64544-810-810	SHIELD CASE BOT	SPTE T0.25 (G-7W PAL)	
L405	62427-814-101	COIL-PEAKING AXIAL	BAL03 TAPG 101K	
	62569-002-107	PAL G RF MODULATOR	RUS-2161AL	
FL409	64529-421-020	CERAMIC-TRAP	TPS-6.0MB	
		POWER-PART PAL (G-7)-A		
	60509-400-116	WIRE-SQ COPPER	TA0.6SN	
R123	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	

LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
R126	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R131	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R132	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R129	61048-177-152	R-METAL FILM	RM 1/8TS 1.5K-J	
R124	61048-277-271	R-METAL FILM	RM 1/4TS 270-J	
R125	61048-277-271	R-METAL FILM	RM 1/4TS 270-J	
C124	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C123	61609-401-480	C-ELECTROLYTIC	CE04W 16V 220M	
C129	61607-401-479	C-ELECTROLYTIC	CE04W 16V 47M	
C121	61609-152-331	C-ELECTROLYTIC	CE04W 25V 330M	
C122	61609-152-331	C-ELECTROLYTIC	CE04W 25V 330M	
Q106	62137-302-740	TRANSISTOR	KSC 945-Y TAPG	
Q111	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
Q113	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
Q114	62137-701-013	TRANSISTOR	KSR 1004 TAPG	
Q110	62149-101-500	TRANSISTOR	KTA966Y	
Q112	62149-101-500	TRANSISTOR	KTA966Y	
Q105	62149-202-060	TRANSISTOR	KSB772	
Q109	62149-301-750	TRANSISTOR	KTC2236Y	
Q107	62149-301-750	TRANSISTOR	KTC2236Y	
ZD105	62169-403-390	DIODE-ZENER	RD9.1 EB2	
ZD104	62169-403-761	DIODE-ZENER	RD12EB2	
D109	62169-406-482	DIODE	1N4148 SAMSUNG	
D110	62169-406-482	DIODE	1N4148 SAMSUNG	
D112	62169-406-482	DIODE	1N4148 SAMSUNG	
L105	62427-812-330	COIL-PEAKING	EL0607RA-330K (33UH) TAPG	
	6900-270-101	ASSY-PRE AMP	D7-PR	
R0388	61048-177-101	R-METAL FILM	RM 1/8TS 100-J	
R0391	61048-177-102	R-METAL FILM	RM 1/8TS 1K-J	
R0395	61048-177-103	R-METAL FILM	RM 1/8TS 10K-J	
R0389	61048-177-151	R-METAL FILM	RM 1/8TS 150-J	
R0390	61048-177-151	R-METAL FILM	RM 1/8TS 150-J	OPTION
R0392	60148-177-151	R-METAL FILM	RM 1/8TS 150-J	OPTION
R0396	61048-177-151	R-METAL FILM	RM 1/8TS 150-J	
R0393	61048-177-152	R-METAL FILM	RM 1/8TS 1.5K-J	
R0394	61048-177-152	R-METAL FILM	RM 1/8TS 1.5K-J	
C3107	61407-105-300	C-CERAMIC TEMP	CC45 CH TAPG 50V 68-J	
C3109	61407-105-320	C-CERAMIC TEMP	CC45 CH TAPG 50V 82-J	
C3110	61417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z	
C3106	61417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z	
C3108	61417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z	
C3115	61417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z	
C3117	61417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z	
C3113	61507-121-511	C-POLYESTER	CO921M TAPG 100V 0.022M-J	
C3114	61507-121-511	C-POLYESTER	CO921M TAPG 100V 0.022M-J	
C3116	61607-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M	
C3118	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	
C3111	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
R3112	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
IC0307	62119-101-730	IC	TA7772P	
D0305	62169-406-482	DIODE	1N4148 SAMSUNG	
D0306	62169-406-482	DIODE	1N4148 SAMSUNG	
L3001	62427-812-399	COIL-PEAKING	EL0606RA-3R9K (3.9UH) TAPG	
	63005-004-138	PWB-PRE AMP	VX-710 1.6TX110.5 x 130	
	63124-103-330	PIN-TEST POINT	BSW V4H P1.0 SN	
CN306	63349-601-060	CONNECTOR WAFER	5234-07A	
	63379-600-034	PC BOARD CONNECTOR	3024-04 AHPB	
	64544-610-810	CASE BOTTOM PREAMP	SPTE 0.3T	
	64544-610-910	CASE TOP PREAMP	SPTE 0.3T	
	69000-270-114	M/C HEAD ASSY	D7-PR	
	63063-607-670	LEAD CONNECTOR ASSY	1429-1061 #26 WHT 460 CN302	
	63349-710-050	TERMINAL	5263-1	

*S.N.A: Service Not Available.

7. MECHANICAL EXPLODED VIEWS

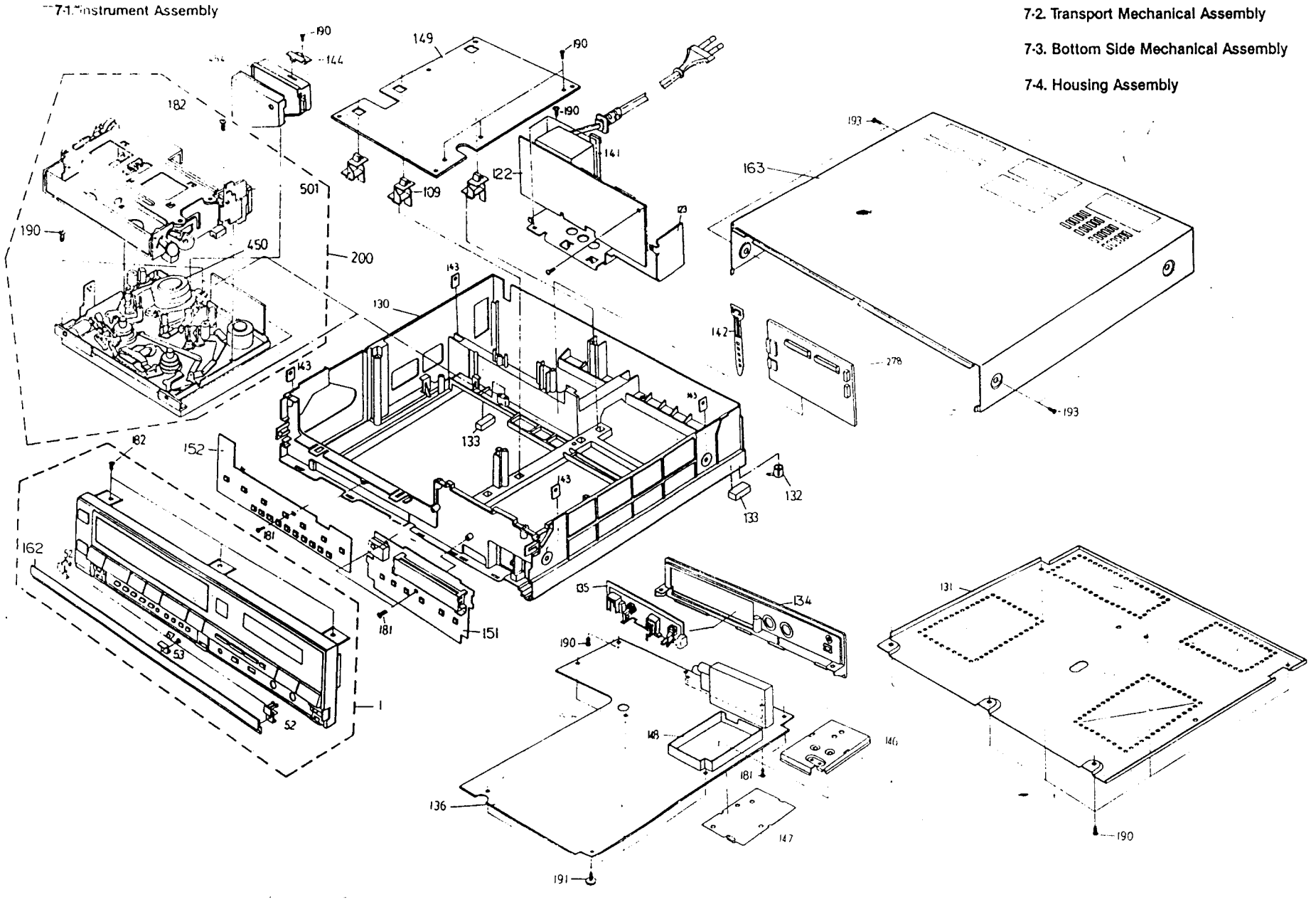
7-1. Instrument Assembly

7-2. Transport Mechanical Assembly

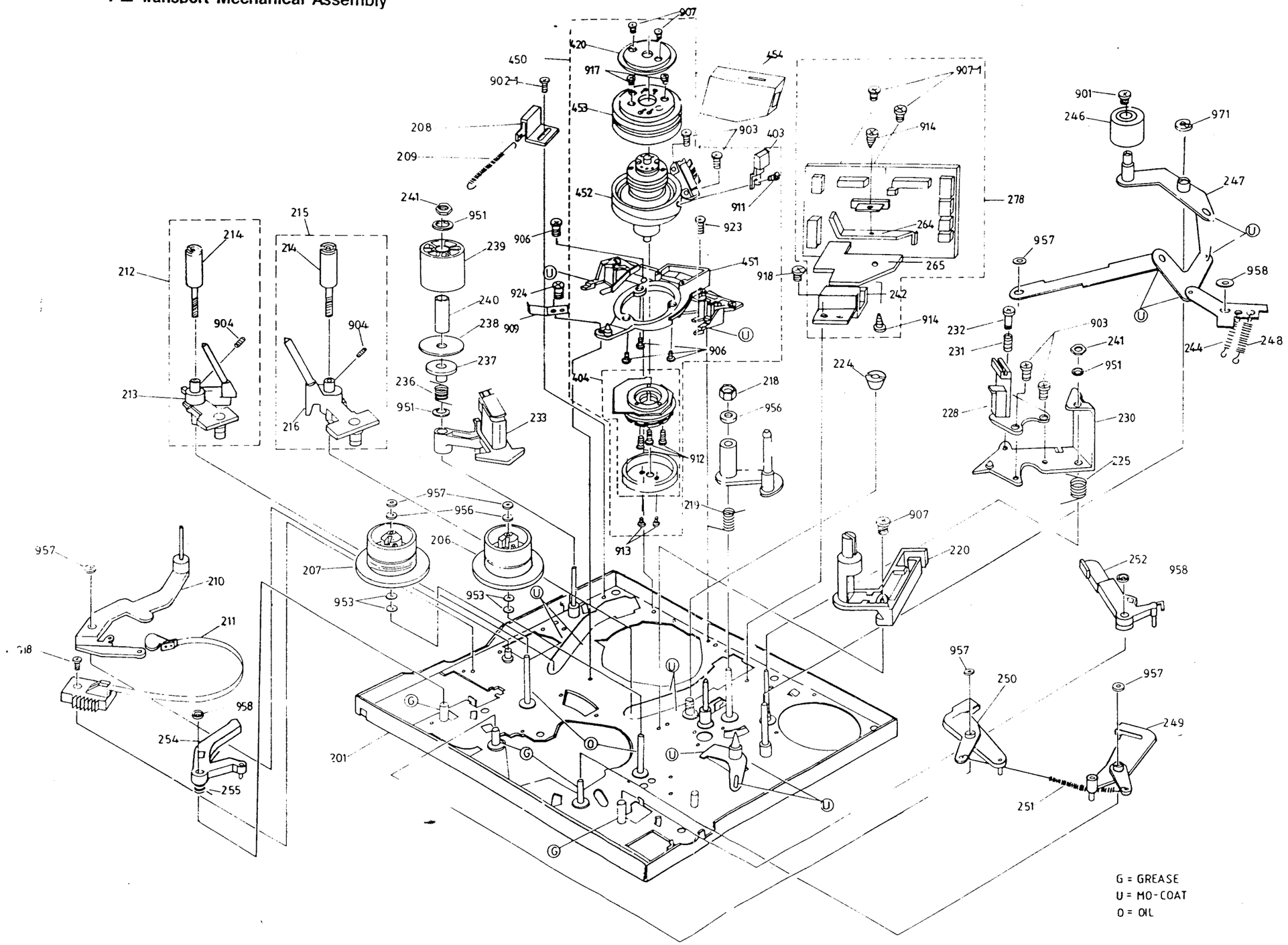
7-3. Bottom Side Mechanical Assembly

7-4. Housing Assembly

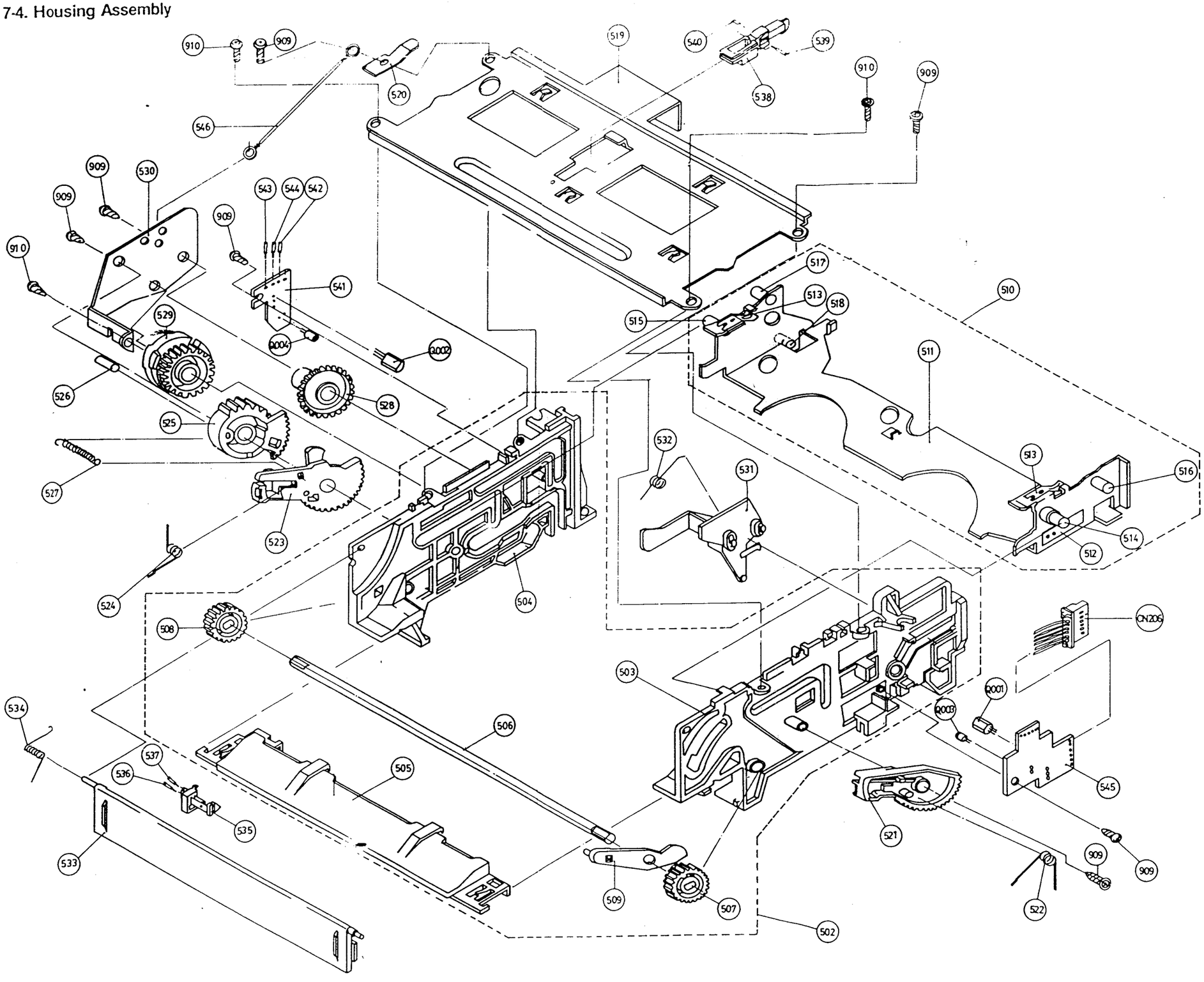
7-1. Instrument Assembly



7-2. Transport Mechanical Assembly



7-4. Housing Assembly



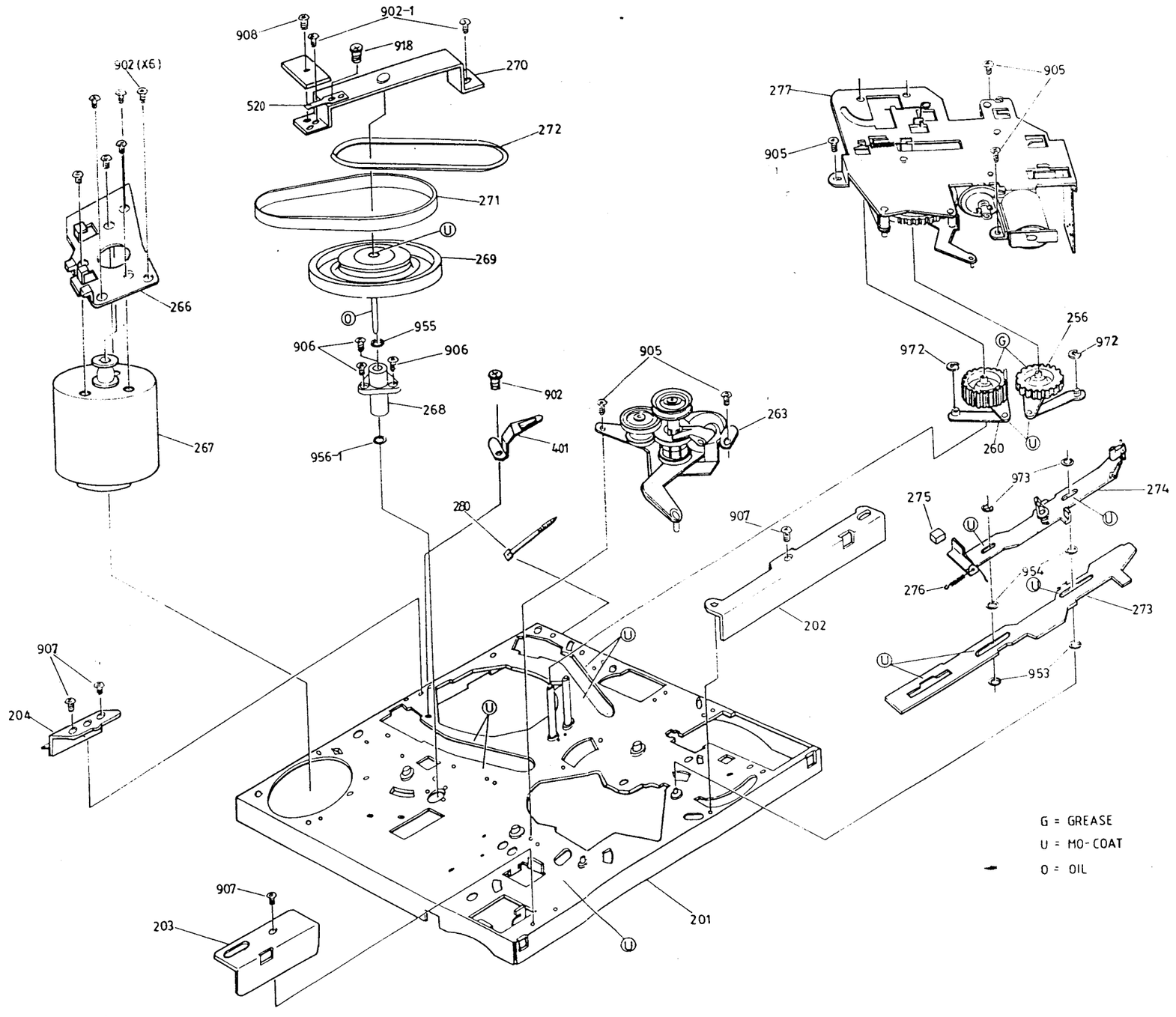
7-5

8. BLOCK DIAGRAM

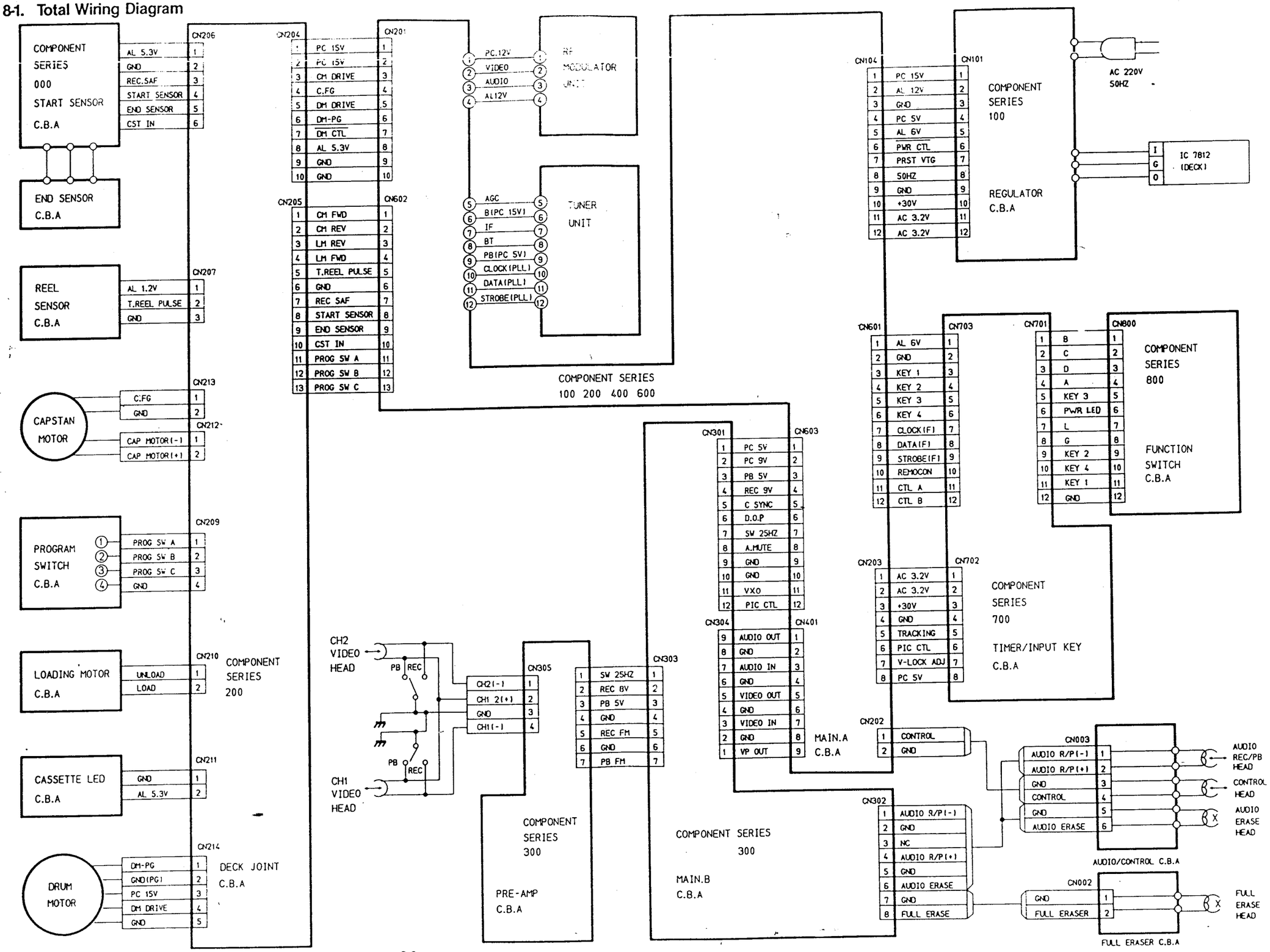
Pa

8-1. Total Wiring Diagram
8-2-1. Regulator (JUMA)
8-2-2. Regulator (JAMA)
8-3. Power
8-4. System Control
8-5. Servo
8-6. Luminance/Chrominance
8-7. Tuner/Demodulator
8-8. Audio
8-9. Timer/Input Key
8-10. Luminance Record Process
8-11. Luminance Playback Process
8-12. Chrominance Record Process
8-13. Chrominance Playback Process
8-14. Audio Record Process
8-15. Audio Playback Process
8-16. Drum Speed Control
8-17. Drum Phase Control
8-18. Capstan Speed Control
8-19. Capstan Phase Control

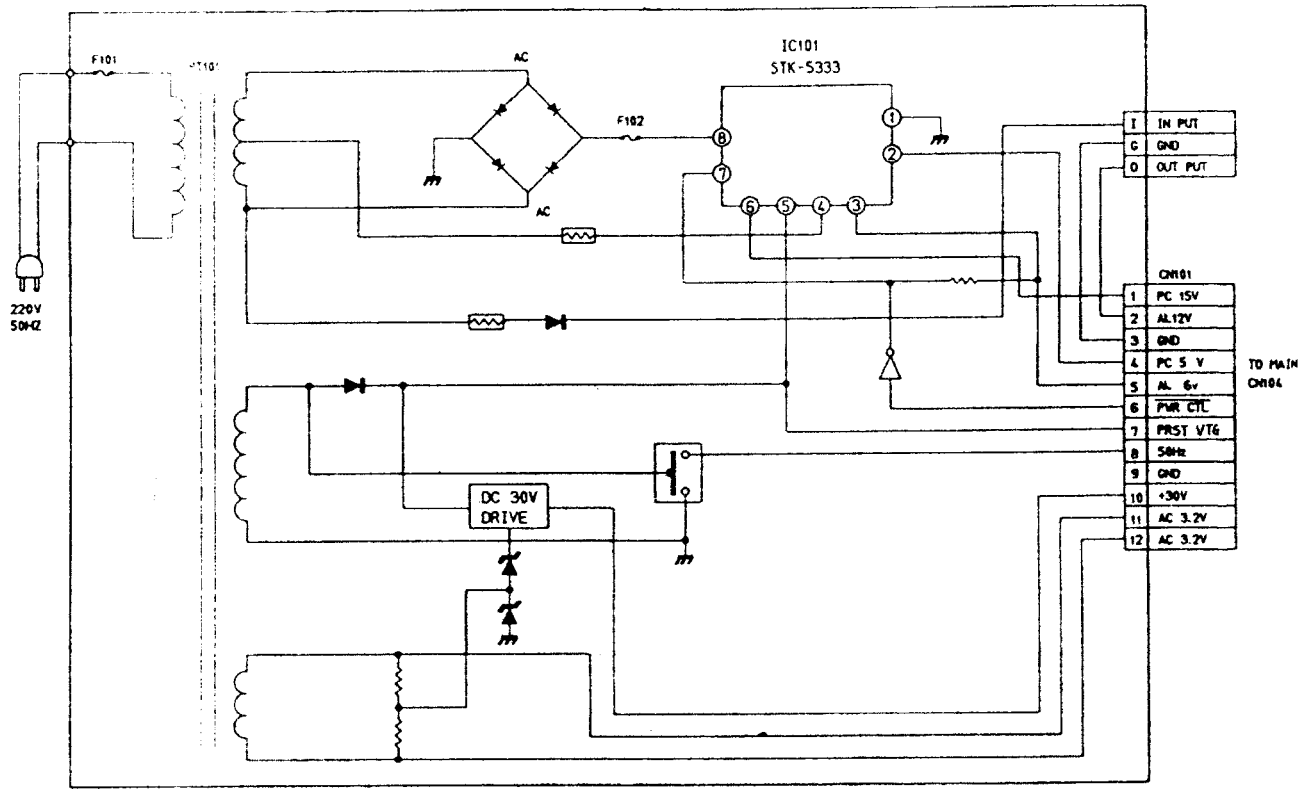
7-3. Bottom Side Mechanical Assembly



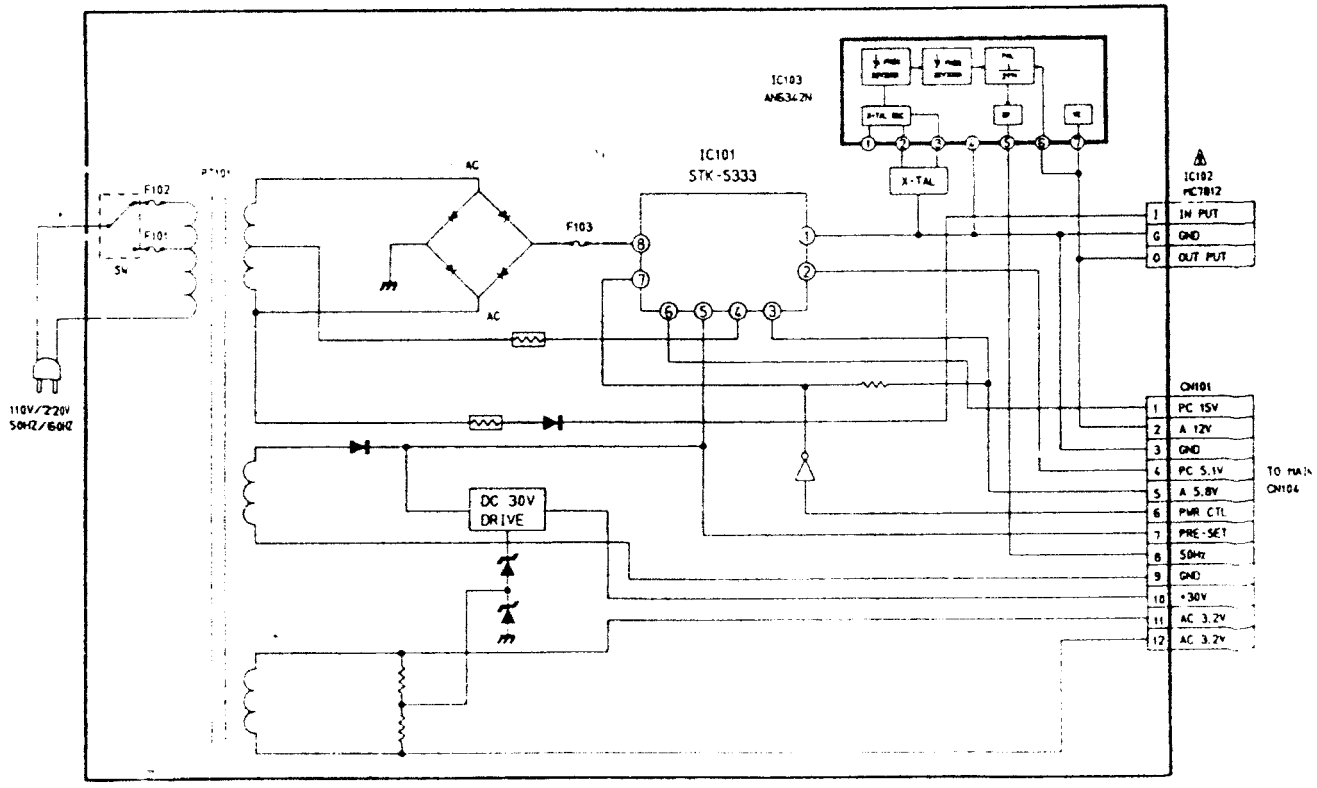
8-1. Total Wiring Diagram



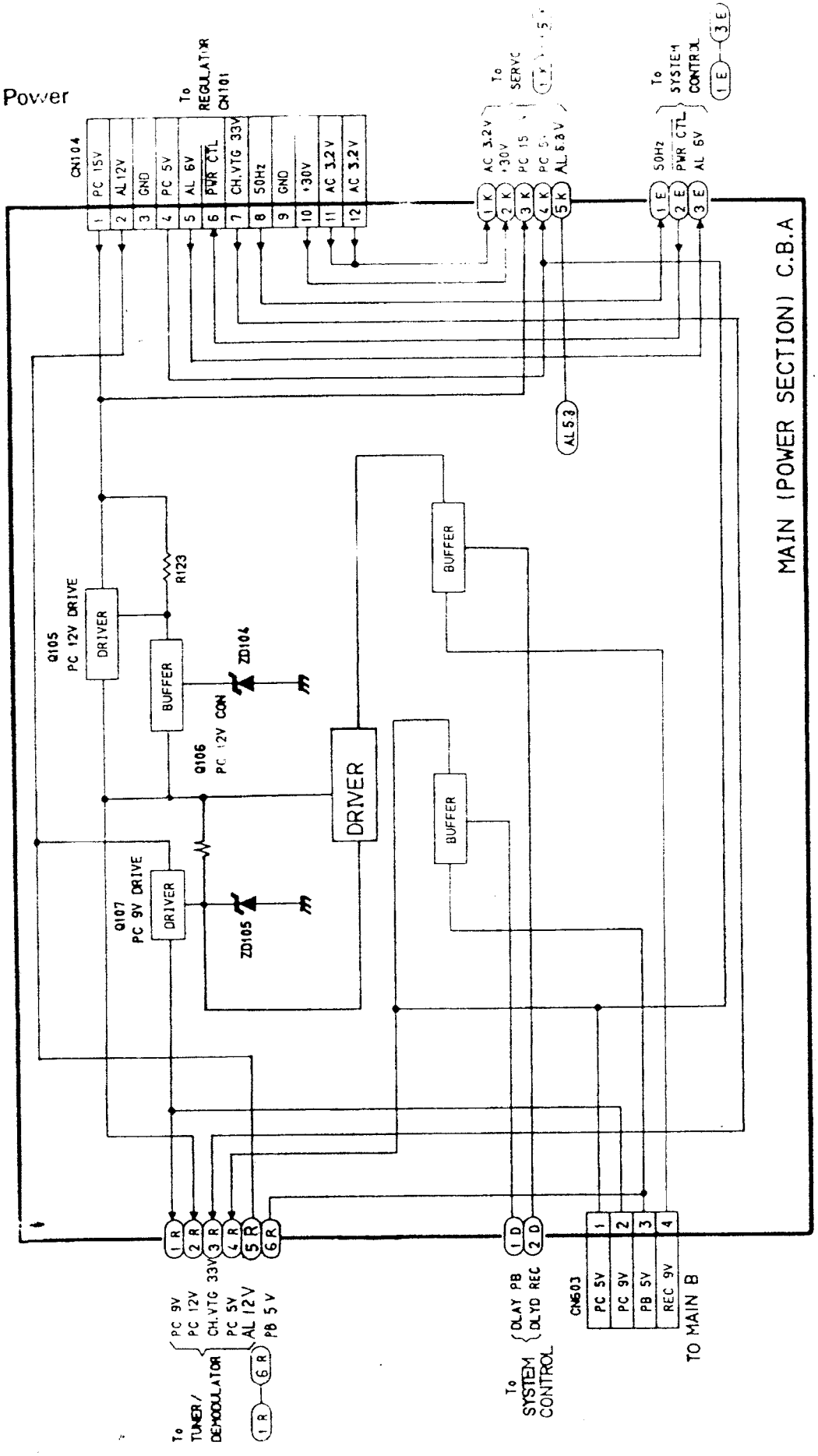
8-2-1. Regulator (JUMA)



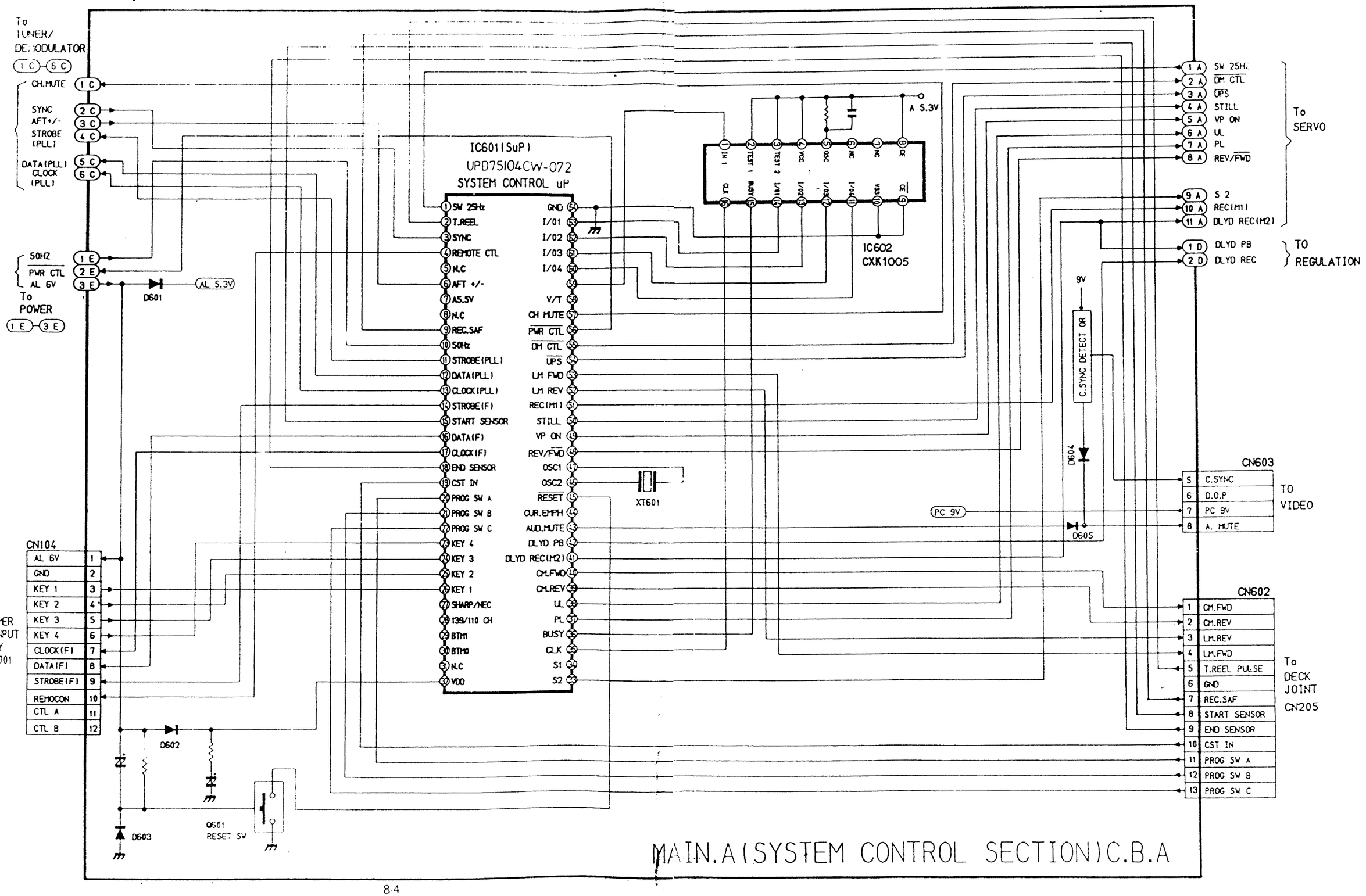
8-2-2. Regulator (JAMA)



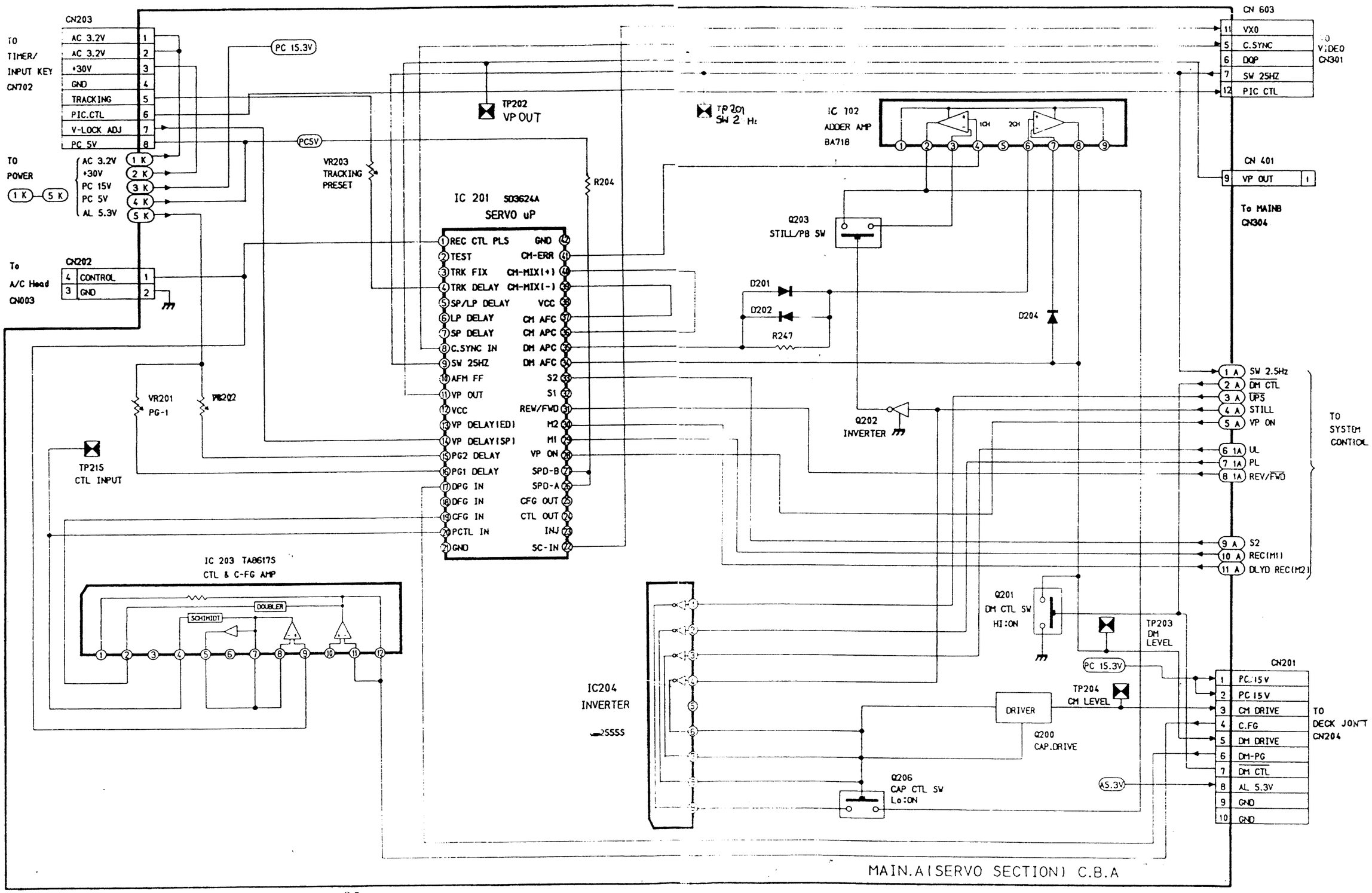
8-3 Power

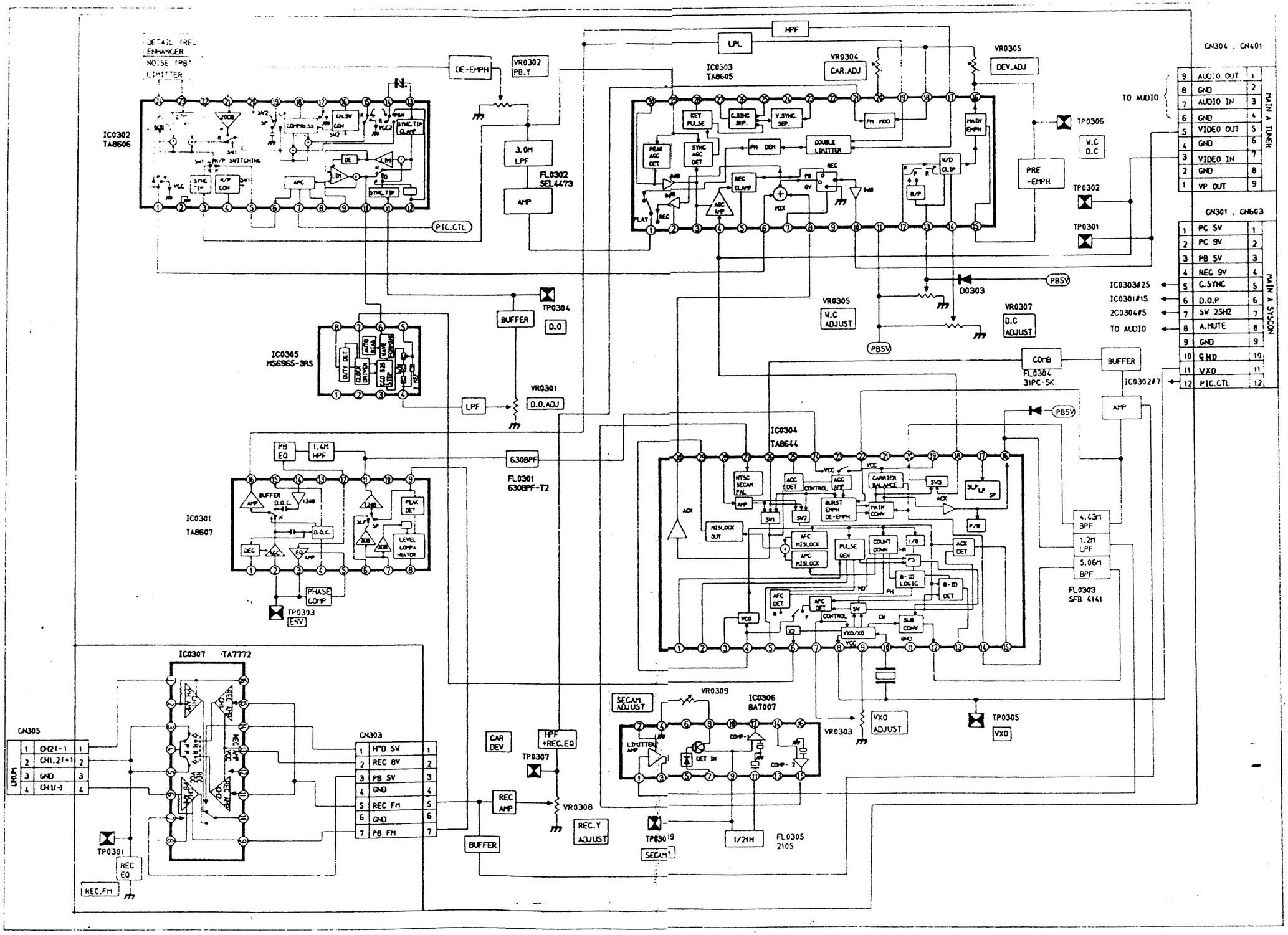

MAIN (POWER SECTION) C.B.A
CN104
PC 15V
AL12V
GND
PC 5V
AL 6V
PWR CTL
CH.VTG 33V
50Hz
GND
+30V
AC 3.2V
AC 3.2V
To REGULATOR CN101
AC 3.2V
+30V
PC 15
AL 6.8V
To SERVO
50Hz
PWR CTL
AL 6V
To SYSTEM CONTROL
AL 5.3
Q105
PC 12V DRIVE
DRIVER
R123
BUFFER
ZD104
Q106
PC 12V CON
Q107
PC 9V DRIVE
DRIVER
ZD105
DRIVER
BUFFER
BUFFER
PC 9V
PC 12V
CH.VTG 33V
PC 5V
AL 12V
PB 5 V
To TUNER/ DEMODULATOR
DLAY PB
DLYD REC
To SYSTEM CONTROL
CN503
PC 5V
PC 9V
PB 5V
REC 9V
TO MAIN B

8-4. System Control

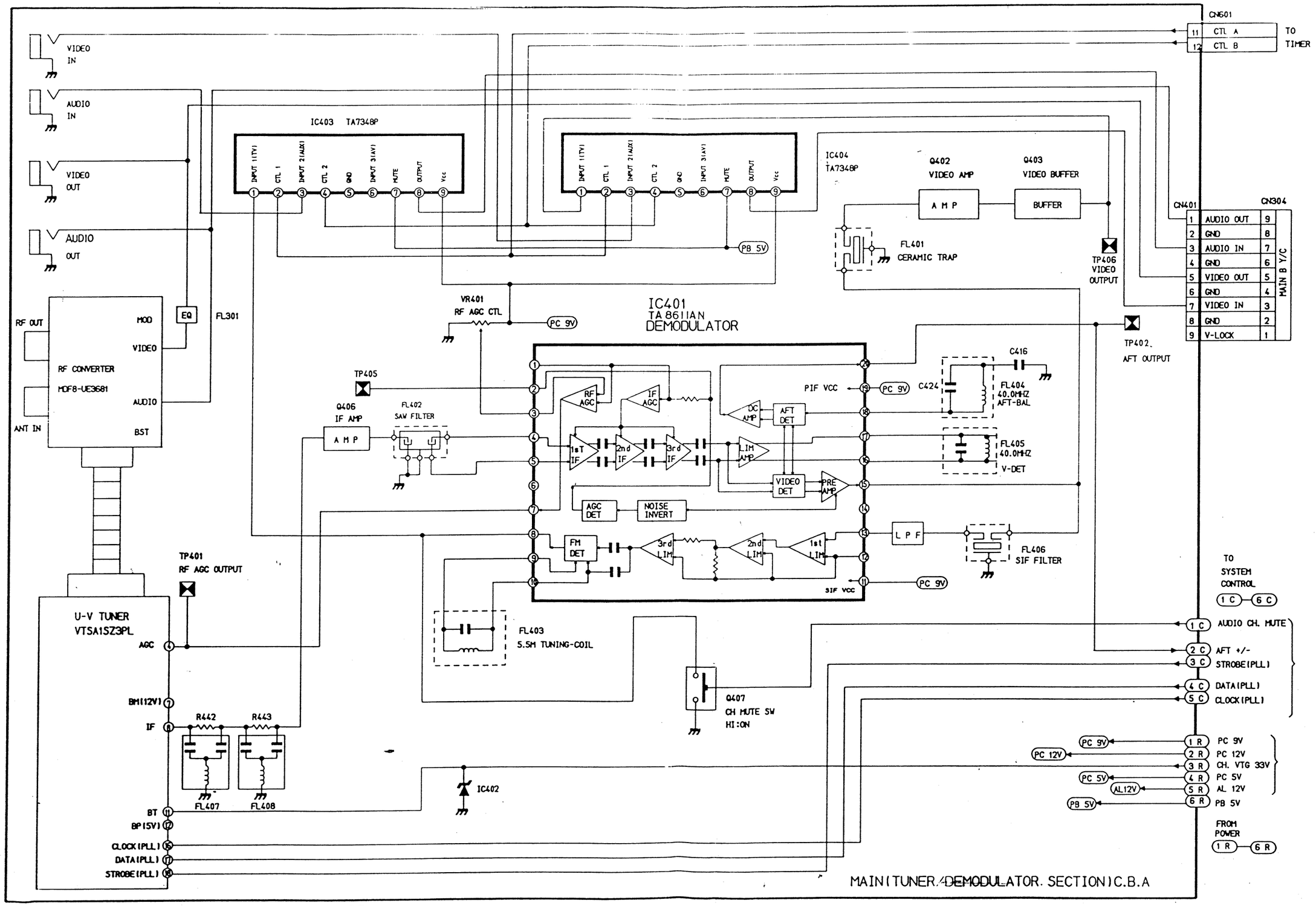


8-5. Servo

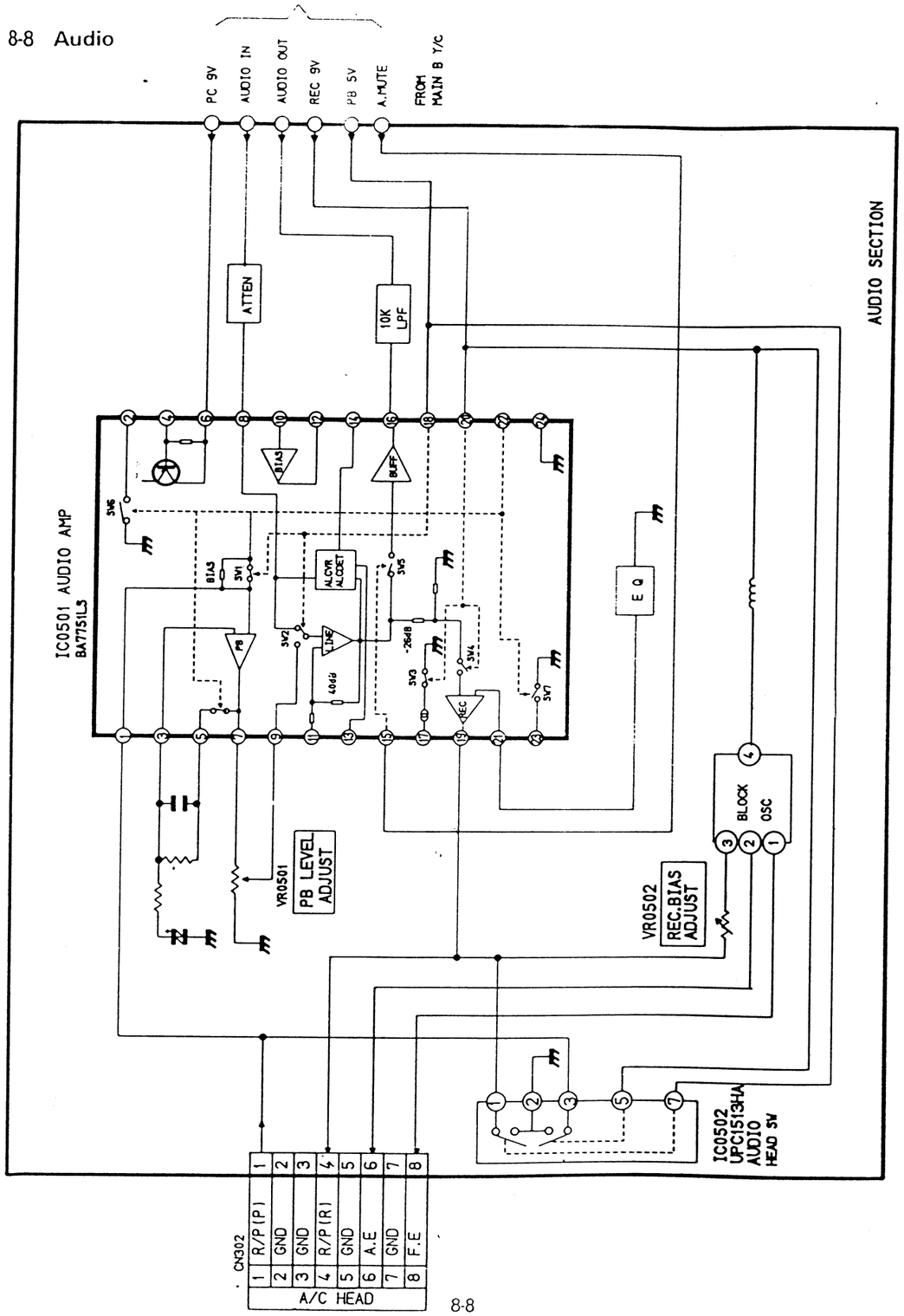

CN203
TO TIMER/ INPUT KEY CN702
AC 3.2V
AC 3.2V
+30V
GND
TRACKING
PIC.CTL
V-LOCK ADJ
PC 5V
TO POWER
AC 3.2V
+30V
PC 15V
PC 5V
AL 5.3V
1K 5K
To A/C Head CN003
CN202
CONTROL
GND
PC 15.3V
PC5V
VR203 TRACKING PRESET
TP202 VP OUT
TP201 SW 2 Hz
IC 201 SD3624A SERVO uP
REC CTL PLS
TEST
TRK FIX
TRK DELAY
SP/LP DELAY
LP DELAY
SP DELAY
C.SYNC IN
SW 2SHZ
AFM FF
VP OUT
VCC
VP DELAY(ED)
VP DELAY(SP)
PG2 DELAY
PG1 DELAY
DPG IN
DFG IN
CFG IN
PCTL IN
GND
GND
CH-ERR
CH-MIX(+)
CH-MIX(-)
VCC
CH AFC
CH APC
DH APC
DH AFC
S2
S1
REW/FWD
M2
M1
VP ON
SPD-B
SPD-A
CFG OUT
CTL OUT
INJ
SC-IN
R204
IC 102 ADDER AMP BA718
1CH
2CH
Q203 STILL/PB SW
D201
D202
R247
D204
Q202 INVERTER
CN 603
VXO
C.SYNC
DOP
SW 25HZ
PIC CTL
TO VIDEO CN301
CN 401
VP OUT
To MAINB CN304
SW 2.5Hz
DH CTL
UP5
STILL
VP ON
UL
PL
REV/FWD
TO SYSTEM CONTROL
S2
REC(M1)
DLYD REC(M2)
VR201 PG-1
VR202
TP215 CTL INPUT
IC 203 TA8617S CTL & C-FG AMP
DOUBLER
SCHMIDT
IC204 INVERTER
Q201 DH CTL SW HI:ON
TP203 DH LEVEL
PC 15.3V
TP204 CH LEVEL
DRIVER
Q200 CAP.DRIVE
Q206 CAP CTL SW Lo:ON
A5.3V
CN201
PC 15V
PC 15V
CH DRIVE
C.FG
DH DRIVE
DH-PG
DH CTL
AL 5.3V
GND
GND
TO DECK JOINT CN204
MAIN.A(SERVO SECTION) C.B.A


IC0302
TA8606
DE-EMPH
VR0302
PB.Y
3.0M
LPF
FL0302
SEL4473
AMP
PIC.CTL
IC0303
TA8605
HPF
LPL
VR0304
CAR.ADJ
VR0305
DEV.ADJ
TO AUDIO
TP0306
W.C
D.C
PRE
-EMPH
TP0302
TP0301
CN304 . CN401
9 AUDIO OUT 1
8 GND 2
7 AUDIO IN 3
6 GND 4
5 VIDEO OUT 5
4 GND 6
3 VIDEO IN 7
2 GND 8
1 VP OUT 9
MAIN A TUNER
CN301 . CN603
1 PC 5V 1
2 PC 9V 2
3 PB 5V 3
4 REC 9V 4
5 C.SYNC 5
6 D.O.P 6
7 SW 25HZ 7
8 A.MUTE 8
9 GND 9
10 GND 10
11 VXO 11
12 PIC.CTL 12
MAIN A SYSCON
IC0303#25
IC0301#15
2C0304#5
TO AUDIO
IC0302#7
PBSV
D0303
VR0305
W.C
ADJUST
VR0307
D.C
ADJUST
TP0304
BUFFER
D.O
IC0305
MS6965-3RS
LPF
VR0301
D.O.ADJ
COMB
FL0304
31PC-SK
BUFFER
AMP
IC0304
TA8644
IC0301
TA8607
PB
EQ
1.4M
HPF
630BPF
FL0301
630BPF-T2
4.43M
BPF
1.2M
LPF
5.06M
BPF
FL0303
SFB 4141
PHASE
COMP
TP0303
ENV
IC0307 TA7772
CN305
1 CH2(-) 1
2 CH1.2(+) 2
3 GND 3
4 CH1(-) 4
CN303
1 H"D SW 1
2 REC 8V 2
3 PB 5V 3
4 GND 4
5 REC FM 5
6 GND 6
7 PB FM 7
REC
EQ
REC.FM
TP0301
CAR
DEV
HPF
+REC.EQ
TP0307
REC
AMP
VR0308
REC.Y
ADJUST
BUFFER
SECAM
ADJUST
VR0309
IC0306
BA7007
VR0303
VXO
ADJUST
TP0305
VXO
TP0309
SECAM
1/2fH
FL0305
210S

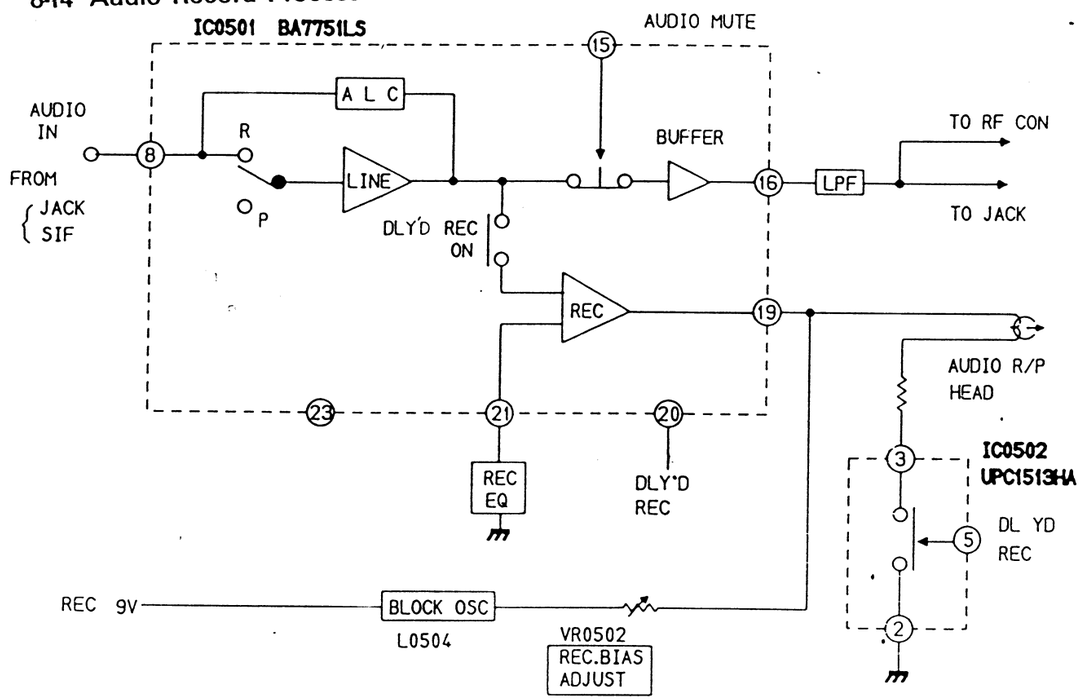
8-7. Tuner/Demodulator



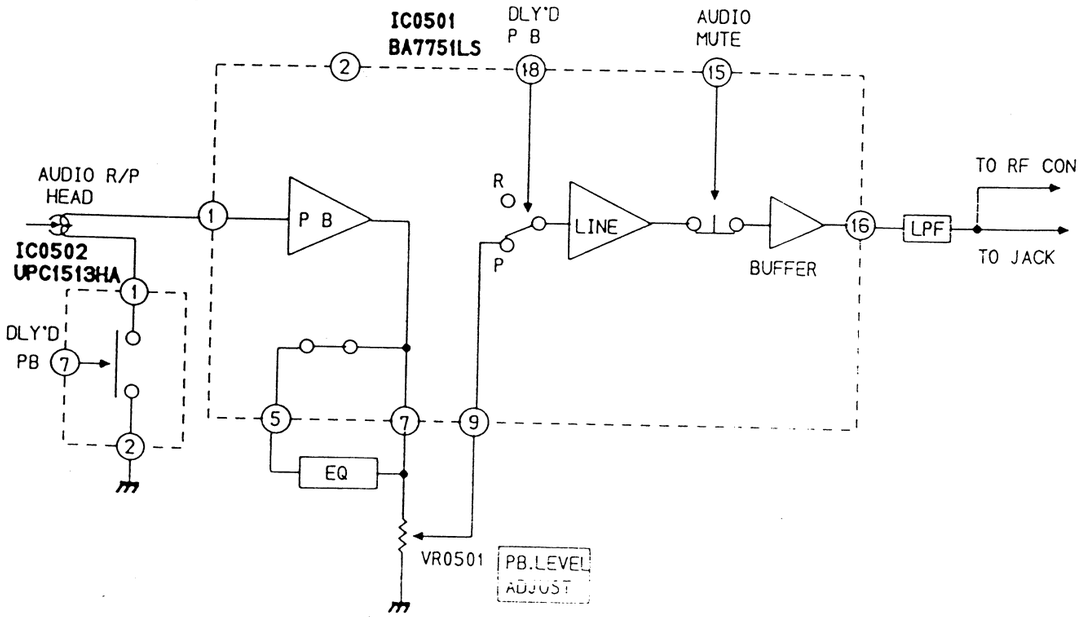
8-8 Audio

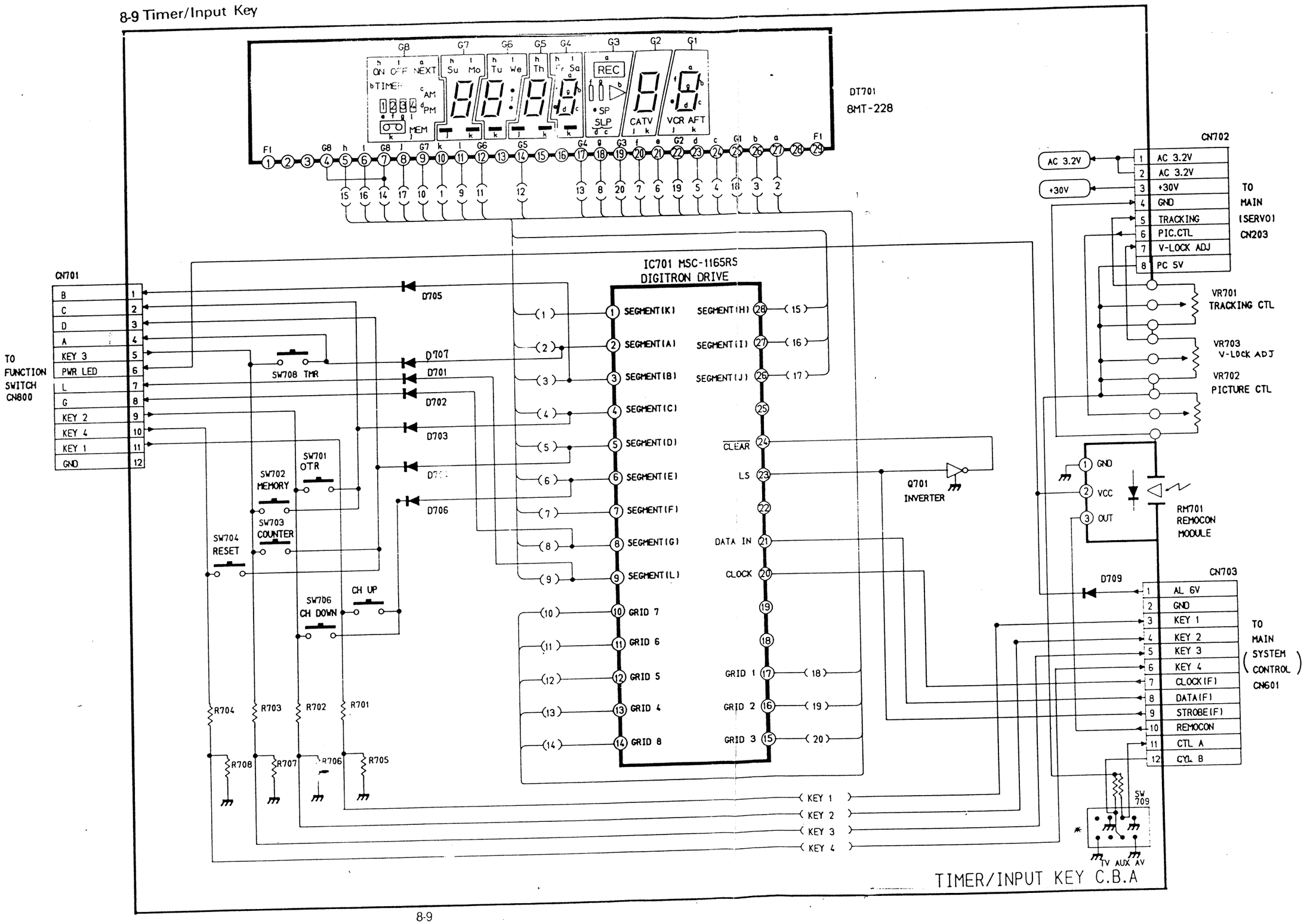


8-14 Audio Record Process

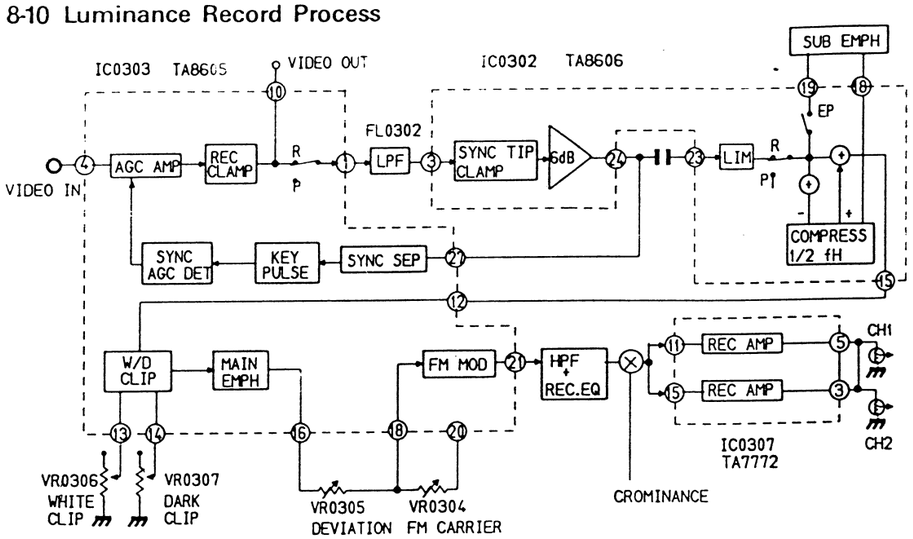


8-15 Audio Playback Process

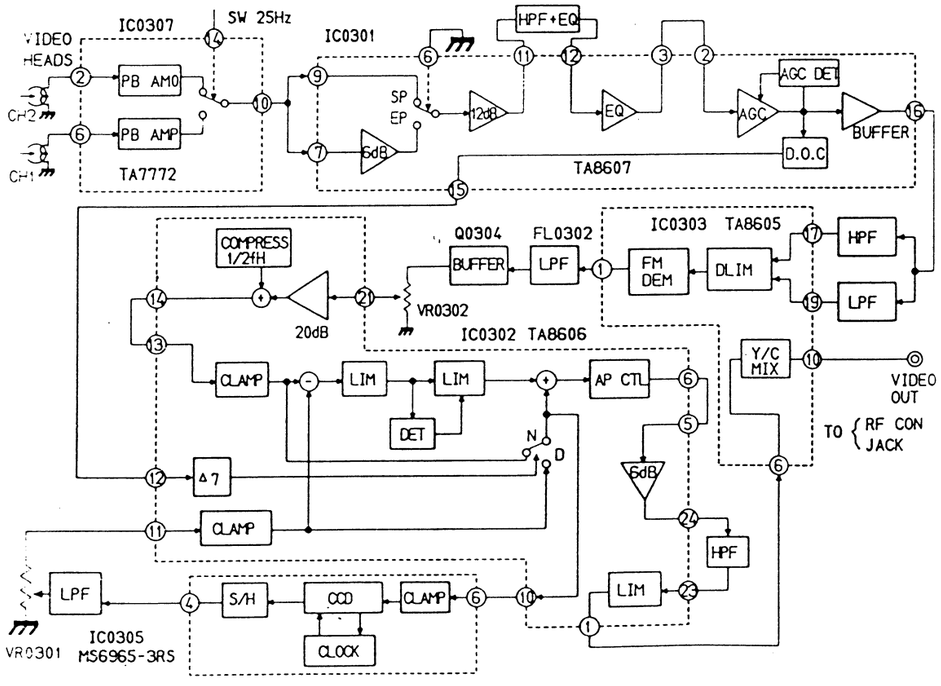



DT701
8MT-228
CN702
AC 3.2V
+30V
1 AC 3.2V
2 AC 3.2V
3 +30V
4 GND
5 TRACKING
6 PIC.CTL
7 V-LOCK ADJ
8 PC 5V
TO MAIN (SERVO) CN203
VR701 TRACKING CTL
VR703 V-LOCK ADJ
VR702 PICTURE CTL
IC701 MSC-1165RS
DIGITRON DRIVE
SEGMENT(K)
SEGMENT(A)
SEGMENT(B)
SEGMENT(C)
SEGMENT(D)
SEGMENT(E)
SEGMENT(F)
SEGMENT(G)
SEGMENT(L)
SEGMENT(H)
SEGMENT(I)
SEGMENT(J)
GRID 7
GRID 6
GRID 5
GRID 4
GRID 8
GRID 1
GRID 2
GRID 3
CLEAR
LS
DATA IN
CLOCK
Q701 INVERTER
CN701
B
C
D
A
KEY 3
PWR LED
L
G
KEY 2
KEY 4
KEY 1
GND
TO FUNCTION SWITCH CN800
D705
D707
D701
D702
D703
D706
SW708 TMR
SW701 OTR
SW702 MEMORY
SW703 COUNTER
SW704 RESET
SW706 CH DOWN
CH UP
R704
R703
R702
R701
R708
R707
R706
R705
KEY 1
KEY 2
KEY 3
KEY 4
GND
VCC
OUT
RM701 REMOCON MODULE
D709
CN703
1 AL 6V
2 GND
3 KEY 1
4 KEY 2
5 KEY 3
6 KEY 4
7 CLOCK(F)
8 DATA(F)
9 STROBE(F)
10 REMOCON
11 CTL A
12 CYL B
TO MAIN (SYSTEM CONTROL) CN601
SW709
TV AUX AV
TIMER/INPUT KEY C.B.A

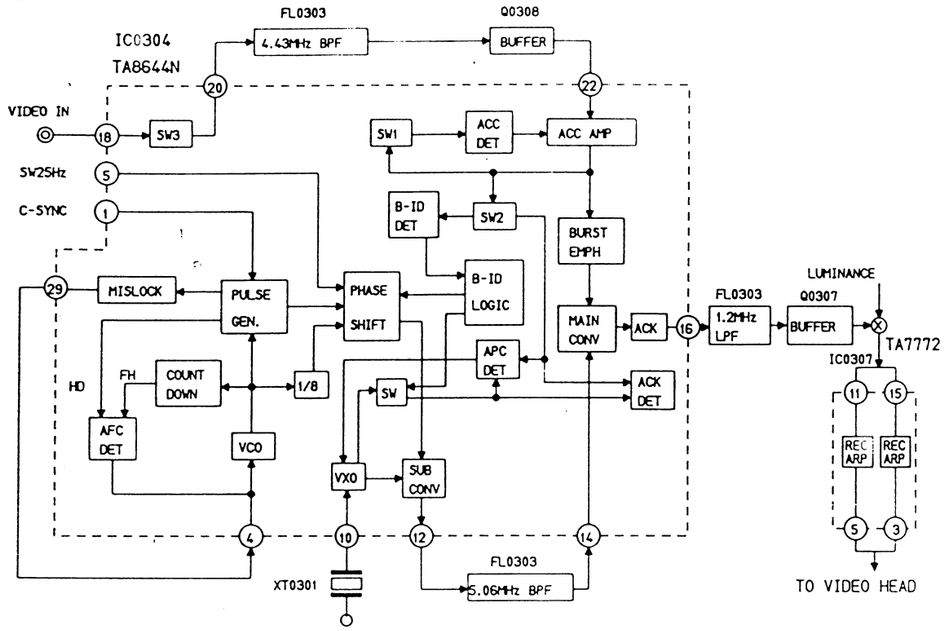
8-10 Luminance Record Process



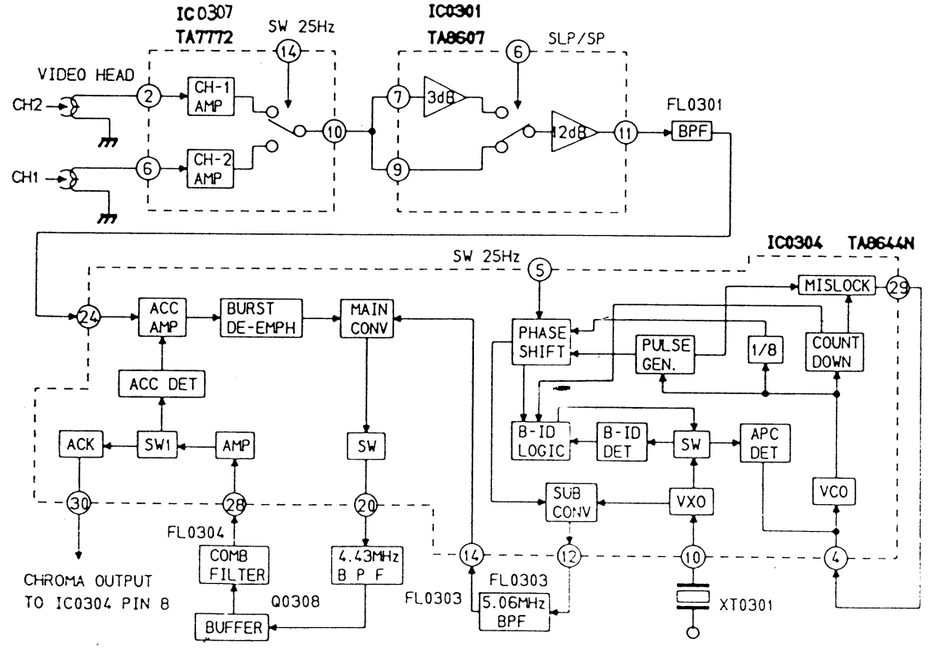
8-11 Luminance Playback Process



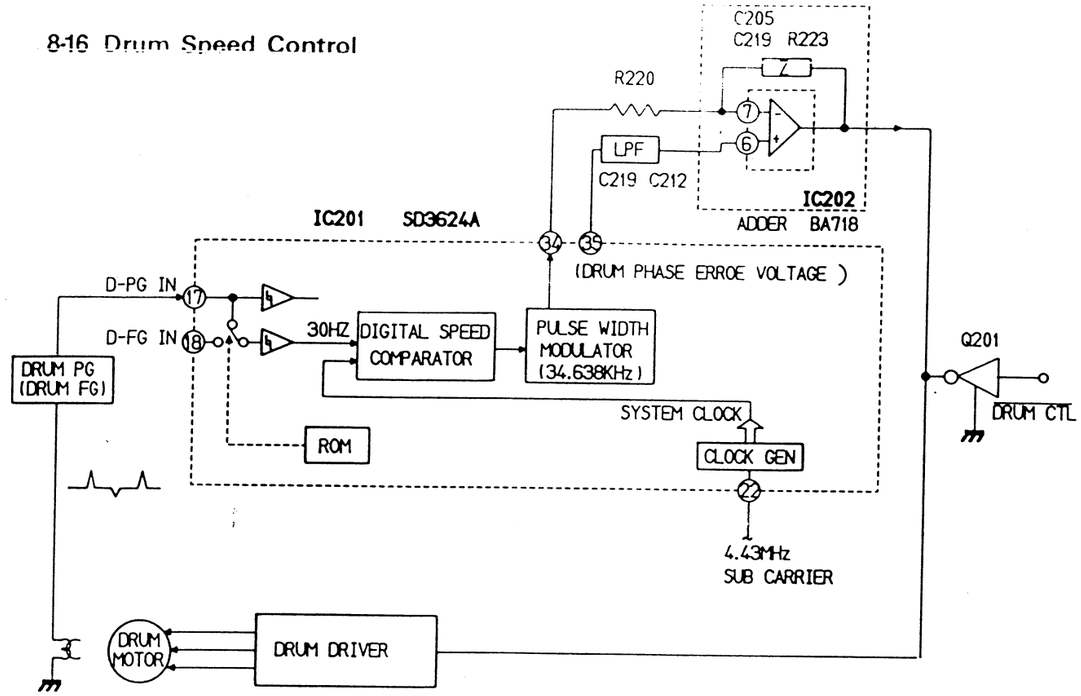
8-12 Chrominance Record Process



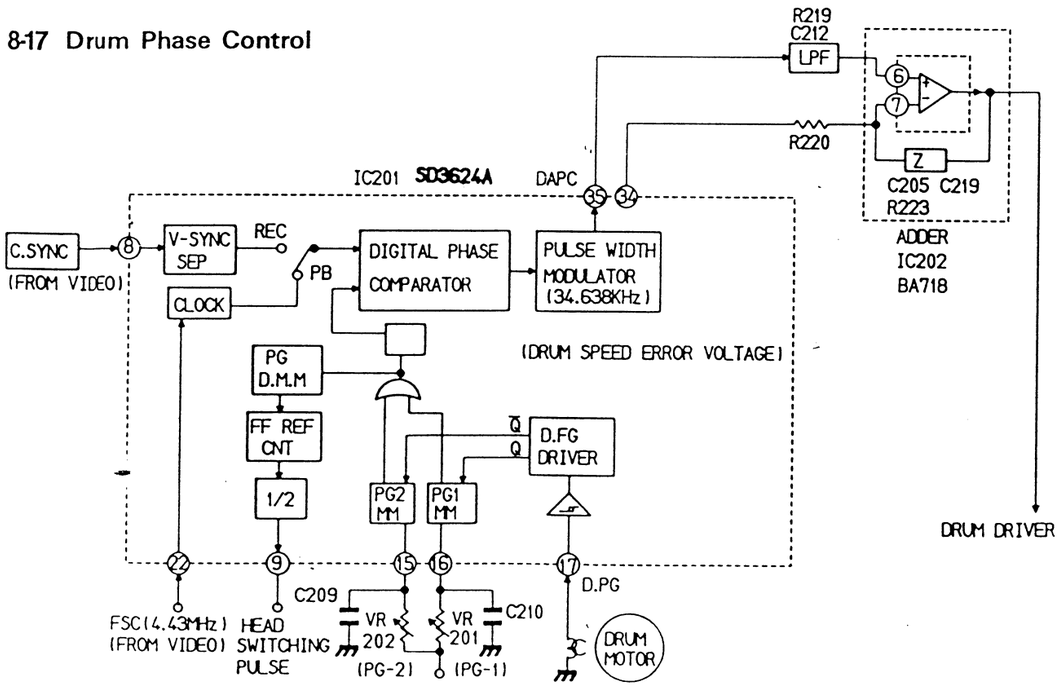
8-13 Chrominance Playback Process



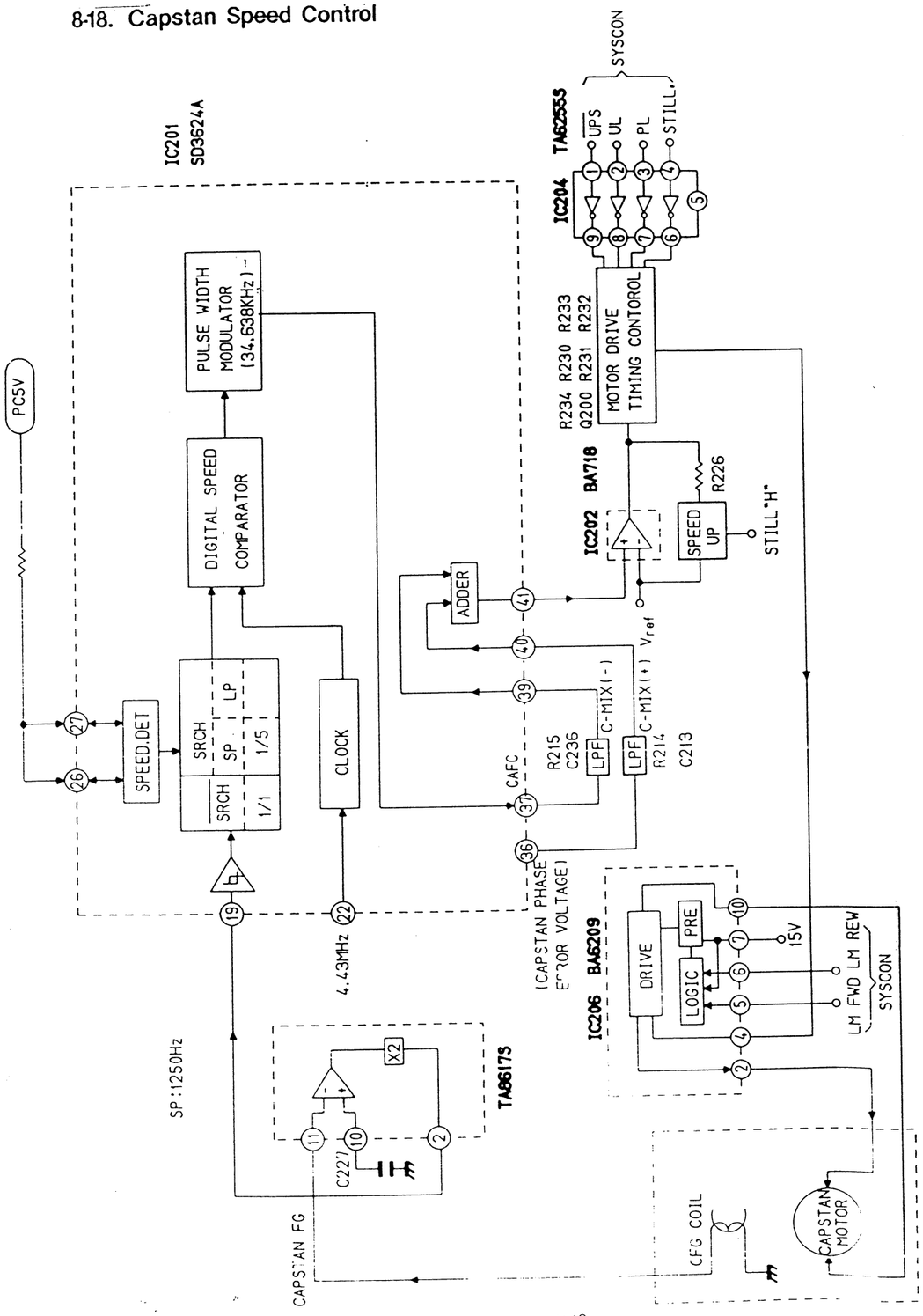
8-16 Drum Speed Control



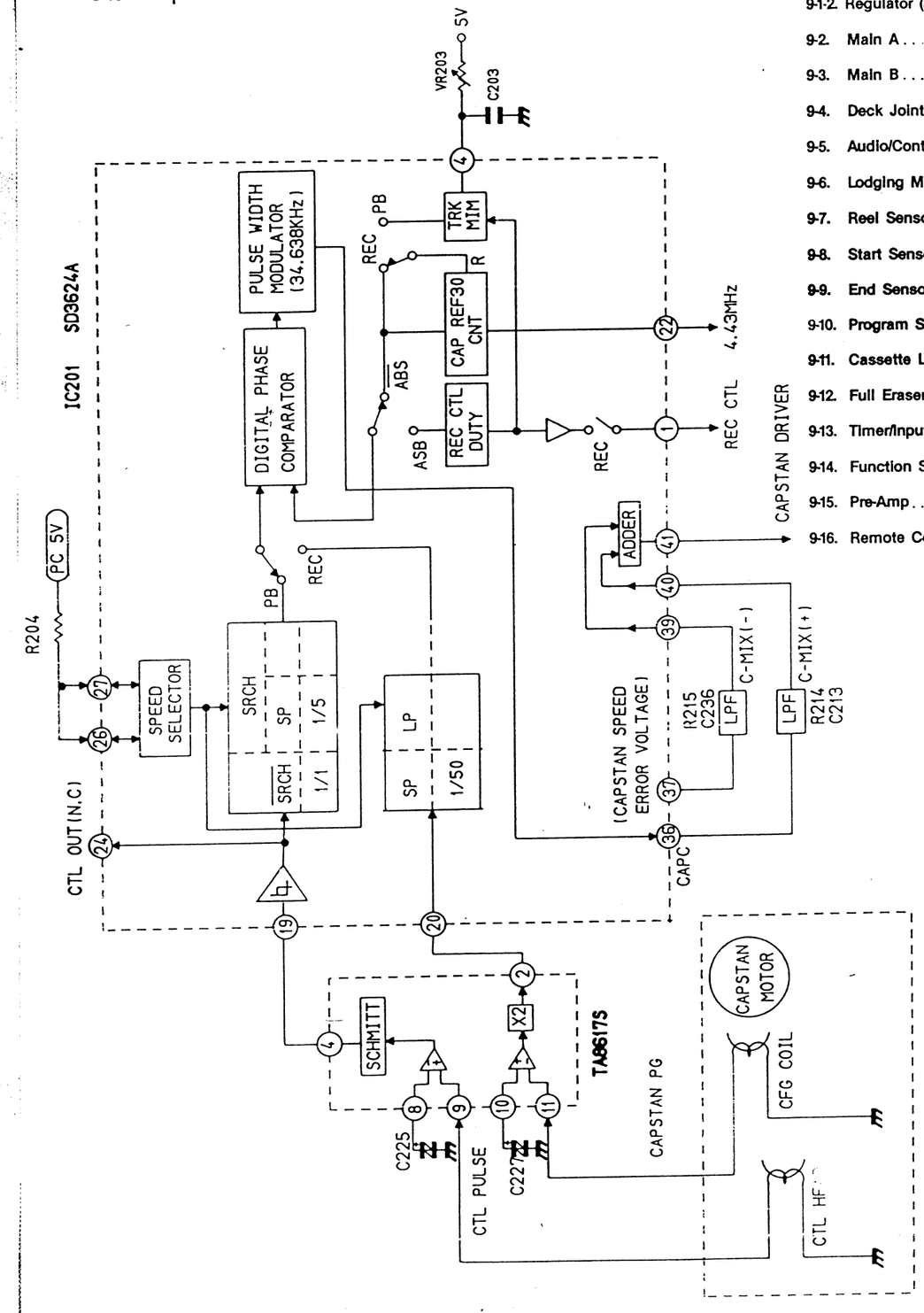
8-17 Drum Phase Control



8-18. Capstan Speed Control



8-19. Capstan Phase Control



	Page
9-1-1. Regulator (JUMA)	9-2
9-1-2. Regulator (JAMA)	9-2
9-2. Main A	9-3
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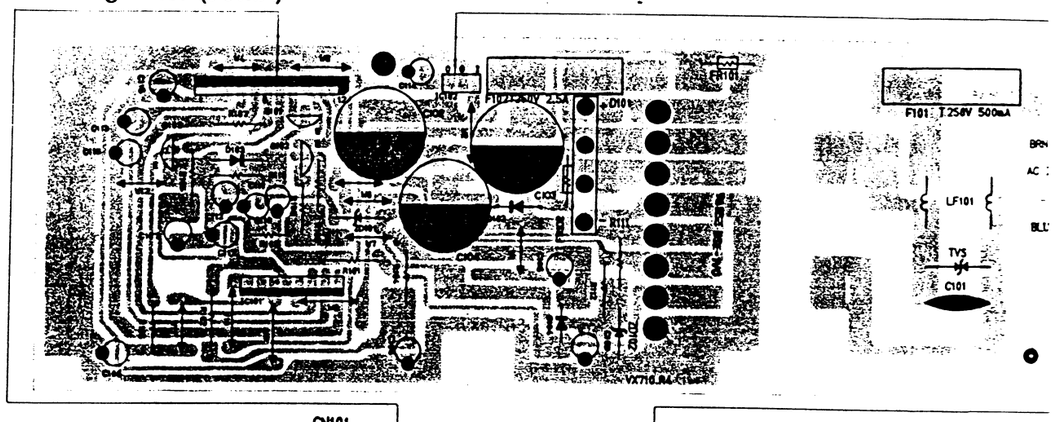
9-16. Remote Control	9-8

9-1-1. Regulator (JUMA)



CN101

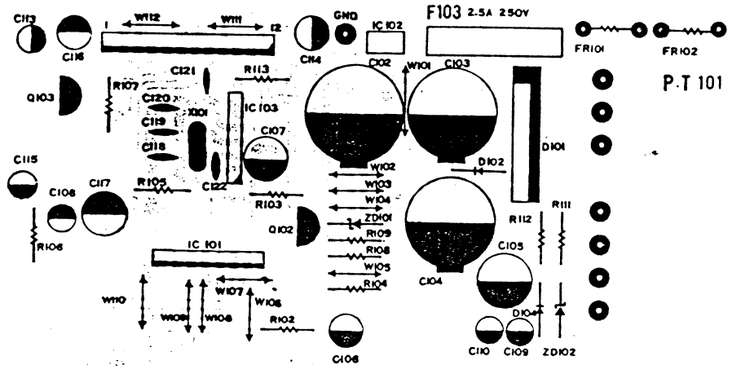
1	PC 15V
2	AL 12V
3	GND
4	PC 5V
5	AL 6V
6	PWR CTL
7	PRST.VTG
8	CLOCK
9	GND
10	30V
11	AC 3.2V
12	AC 3.2V

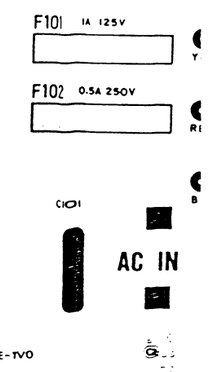
IC102

1	IN PUT
2	GND
3	OUT DUT

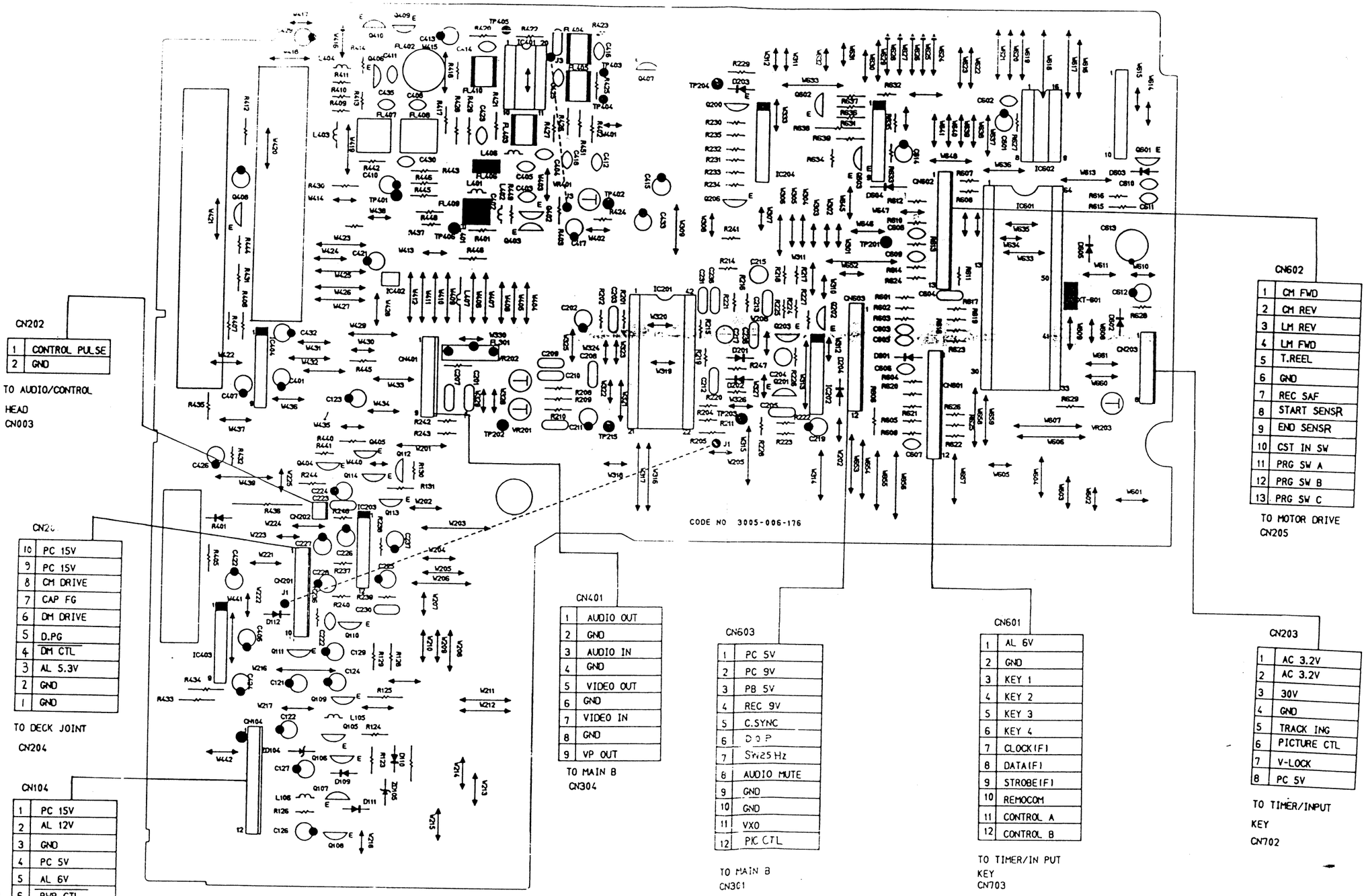
TO DRUM ASSY

9-1-2. Regulator (JAMA)





9-2. Main A



CODE NO 3005-006-176

CN202

1	CONTROL PULSE
2	GND

TO AUDIO/CONTROL HEAD CN003

CN201

10	PC 15V
9	PC 15V
8	CM DRIVE
7	CAP FG
6	DM DRIVE
5	D.PG
4	DM CTL
3	AL 5.3V
2	GND
1	GND

TO DECK JOINT CN204

CN104

1	PC 15V
2	AL 12V
3	GND
4	PC 5V
5	AL 6V
6	PWR CTL
7	PRST VTG
8	CLOCK
9	GND
10	30V
11	AC 3.2V
12	AC 3.2V

TO REGULATOR CN101

CN401

1	AUDIO OUT
2	GND
3	AUDIO IN
4	GND
5	VIDEO OUT
6	GND
7	VIDEO IN
8	GND
9	VP OUT

TO MAIN B CN304

CN603

1	PC 5V
2	PC 9V
3	PB 5V
4	REC 9V
5	C.SYNC
6	D.D.P
7	SW25Hz
8	AUDIO MUTE
9	GND
10	GND
11	VXO
12	PIC CTL

TO MAIN B CN301

CN601

1	AL 6V
2	GND
3	KEY 1
4	KEY 2
5	KEY 3
6	KEY 4
7	CLOCK(F)
8	DATA(F)
9	STROBE(F)
10	REMOCOM
11	CONTROL A
12	CONTROL B

TO TIMER/IN PUT KEY CN703

CN602

1	CM FWD
2	CM REV
3	LM REV
4	LM FWD
5	T.REEL
6	GND
7	REC SAF
8	START SENSR
9	END SENSR
10	CST IN SW
11	PRG SW A
12	PRG SW B
13	PRG SW C

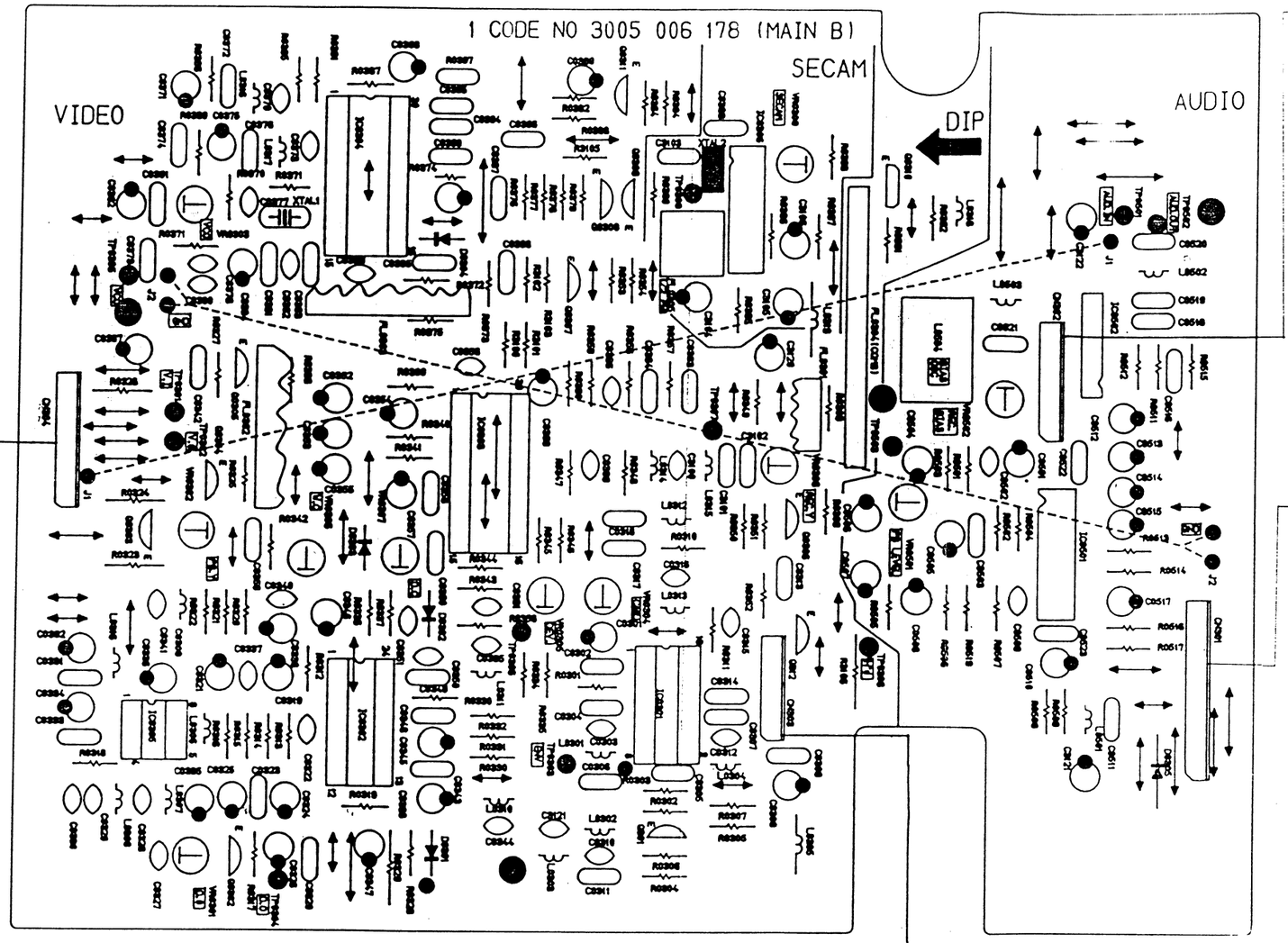
TO MOTOR DRIVE CN205

CN203

1	AC 3.2V
2	AC 3.2V
3	30V
4	GND
5	TRACK ING
6	PICTURE CTL
7	V-LOCK
8	PC 5V

TO TIMER/INPUT KEY CN702

9-3. Main B



CN304

1	AUDIO OUT
2	GND
3	AUDIO IN
4	GND
5	VIDEO OUT
6	GND
7	VIDEO IN
8	GND
9	V-LOCK

TO MAIN A
CN401

CN302

1	R/P(-)
2	GND
3	GND
4	R/P(+)
5	GND
6	AUDIO ERASE
7	GND
8	FULL ERASE

TO FULL ERASER
CN002
TO AUDIO/CONTROL
CN003

CN301

1	PC 5V
2	PC 9V
3	PB 5V
4	REC 9V
5	C.SYNC
6	D.O.P
7	SW 25Hz
8	AUDIO MUTE
9	GND
10	GND
11	VXO
12	P.C

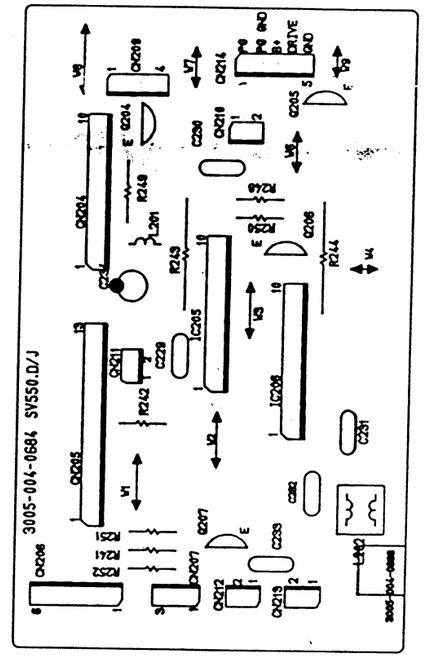
TO MAIN A
CN603

CN303

1	SW 25Hz
2	REC 7V
3	PB 5V
4	GND
5	REC FM
6	GND
7	PB FM

TO PRE AMP

9-4. Deck Joint



CN204

1	PC 15 V
2	PC 15 V
3	CM DRIVE
4	CAP.FG
5	DM DRIVE
6	D. PG
7	DM CTL
8	AL 5.3V
9	GND
10	GND

To
MAIN
CN201

CN205

1	CM FWD
2	CM REV
3	LM REV
4	LM FWD
5	T.REEL
6	GND
7	REC.SAF
8	START SENSOR
9	END SENSOR
10	CST IN SW
11	PRG SW A
12	PRG SW B
13	PRG SW C

To
MAIN
CN602

CN206

1	AL 5.3V
2	GND
3	REC.SAF
4	START SENSO
5	END SENSOR
6	CST IN SW

To
START SENSO

CN207

1	AL 5.3V
2	T.REEL PULSE
3	GND

To
REEL SENSOR

CN209

1	PRG SW A
2	PRG SW B
3	PRG SW C
4	GND

To
PROGRAM SWITCH

CN211

1	GND
2	AL 5.3V

To
CASSETTE LED

CN213

1	CAP.FG
2	GND

To
CAPSTAN MOTO

CN214

1	D. PG
2	GND(PG)
3	PC 15 V
4	DM DRIVE
5	GND

To
DRUM MOTOR

CN210

1	UNLOAD
2	LOAD

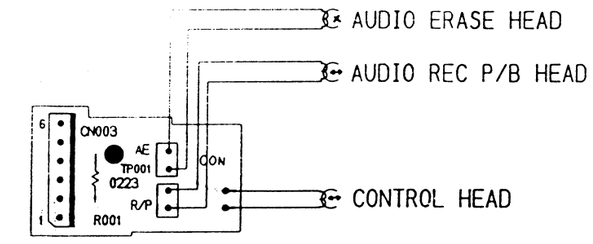
To
LOADING MOTOR

CN212

1	CAP. MOTOR(-)
2	CAP. MOTOR(+)

To
CAPSTAN MOTOR

9-5. Audio/Control Head

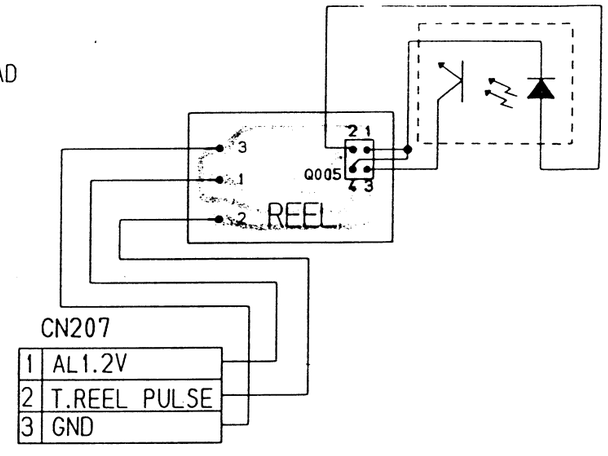


CN003

1	AUDIO R/P (-)
2	AUDIO R/P (+)
3	GND
4	CONTROL
5	GND
6	AUDIO ERASE

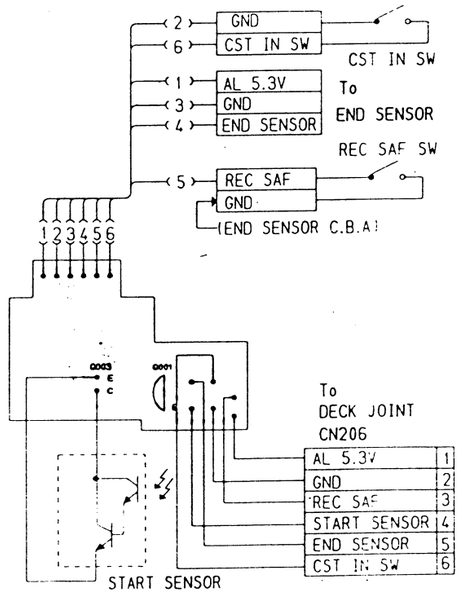
TO
MAIN
CN202
CN302

9-7. Reel Sensor

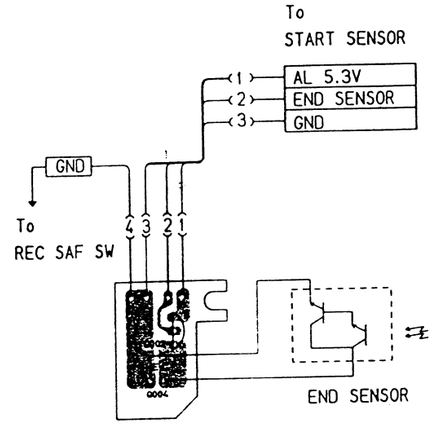


TO
DECK JOINT
CN207

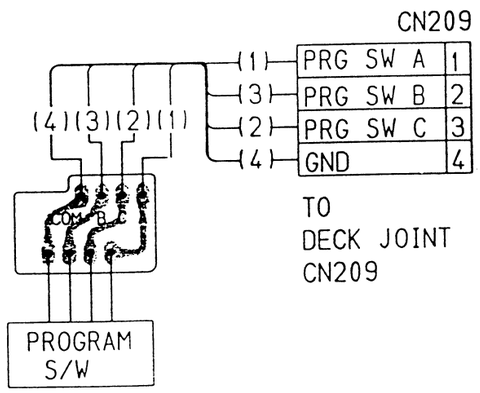
9-8. Start Sensor



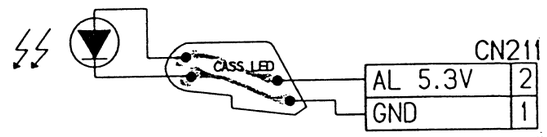
9-9. End Sensor



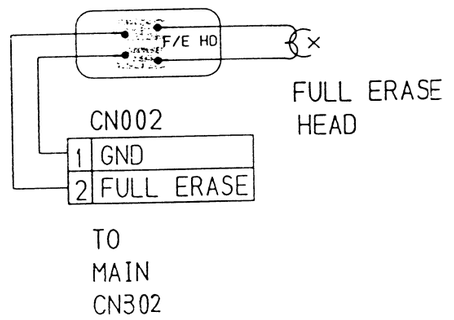
9-10. Program Switch



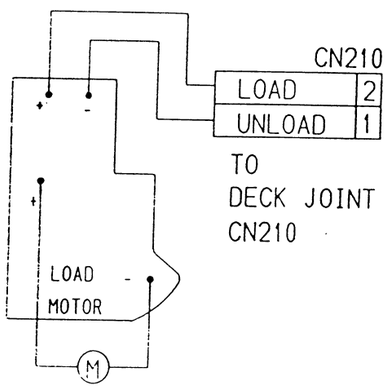
9-11. Cassette Led



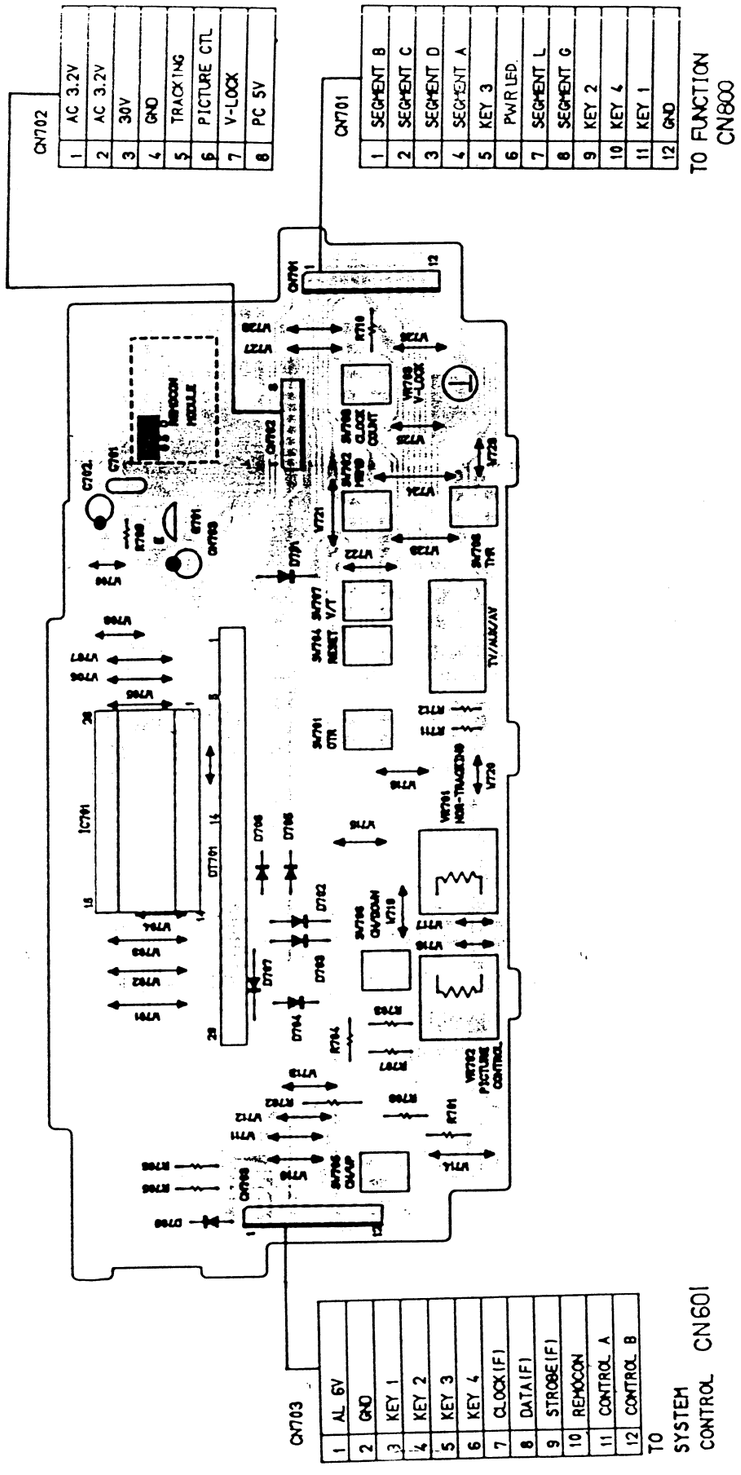
9-12. Full Eraser Head



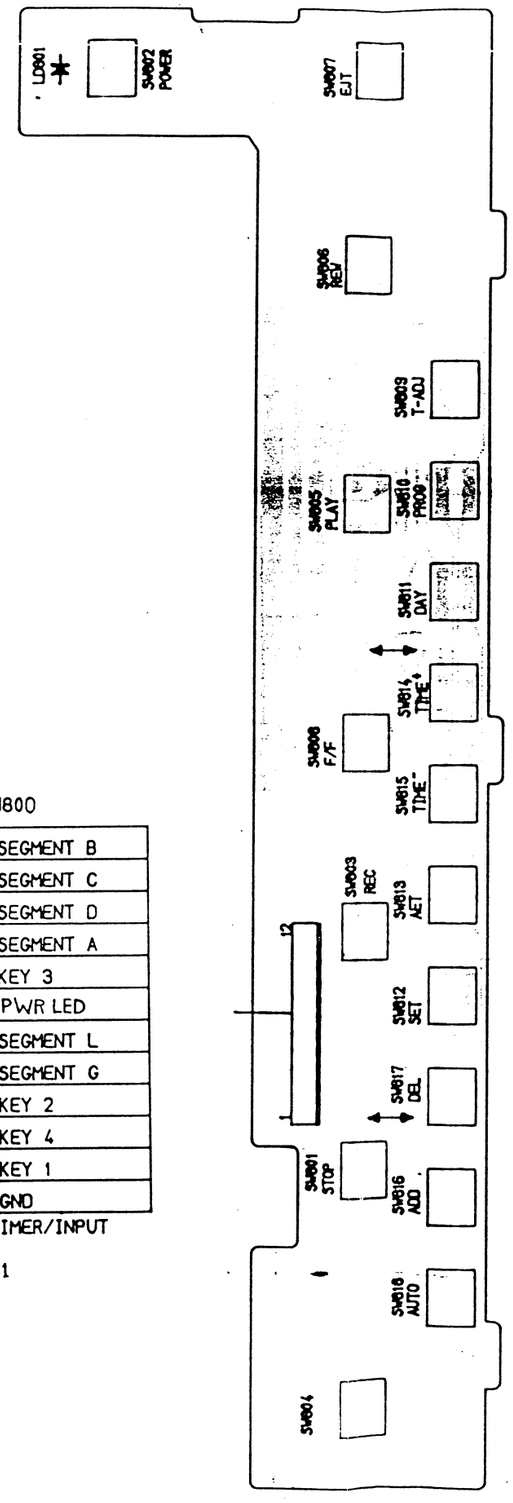
9-6. Loading Motor



9-13. Timer/Input Key



9-14. Function Switch

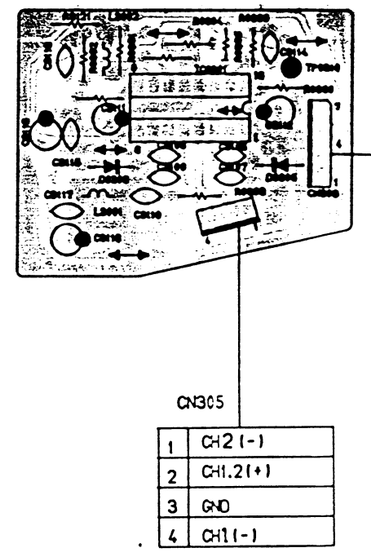


CN800

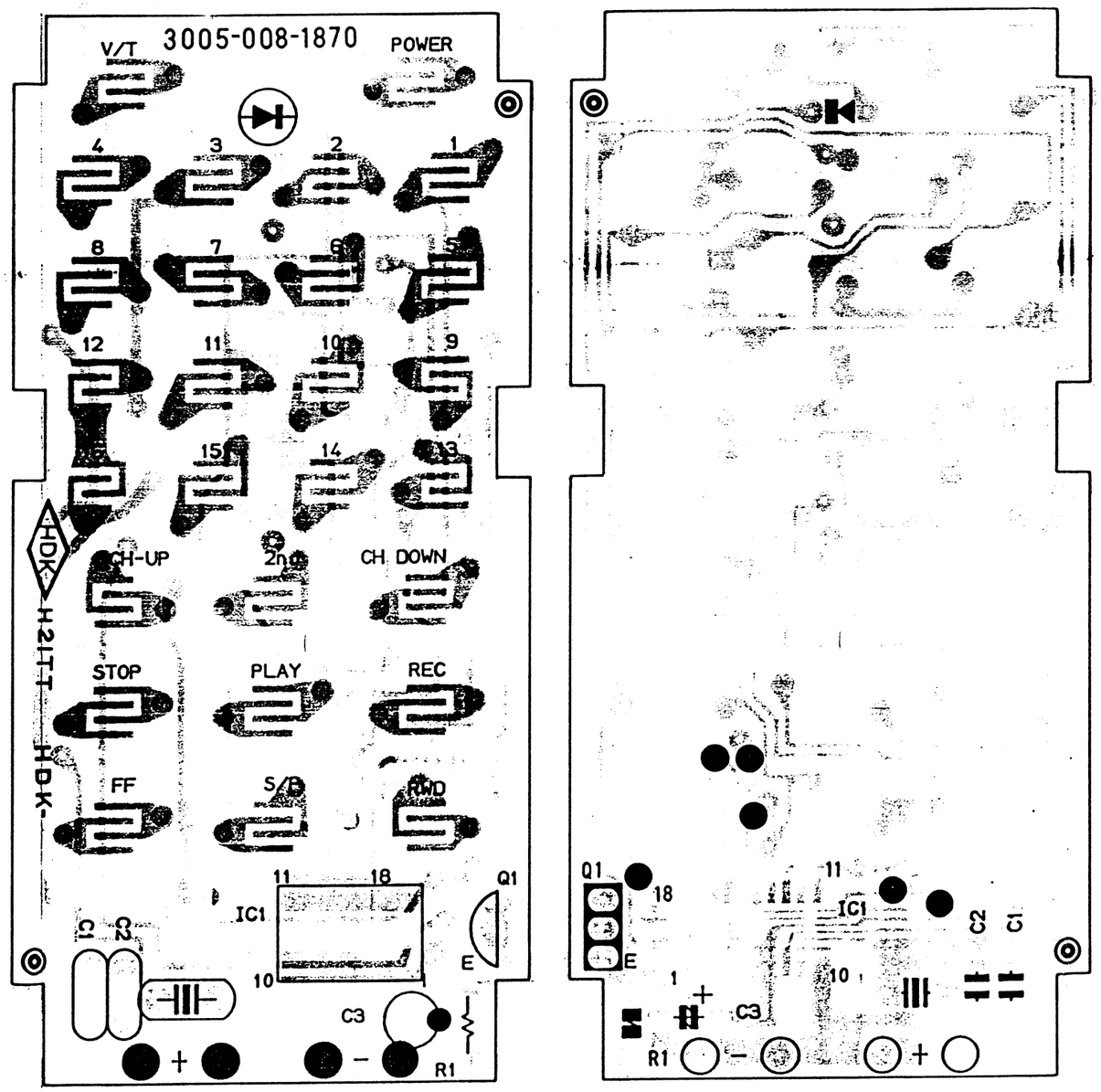
1	SEGMENT B
2	SEGMENT C
3	SEGMENT D
4	SEGMENT A
5	KEY 3
6	PWR LED
7	SEGMENT L
8	SEGMENT G
9	KEY 2
10	KEY 4
11	KEY 1
12	GND

TO TIMER/INPUT KEY CN701

9-15. Pre-Amp



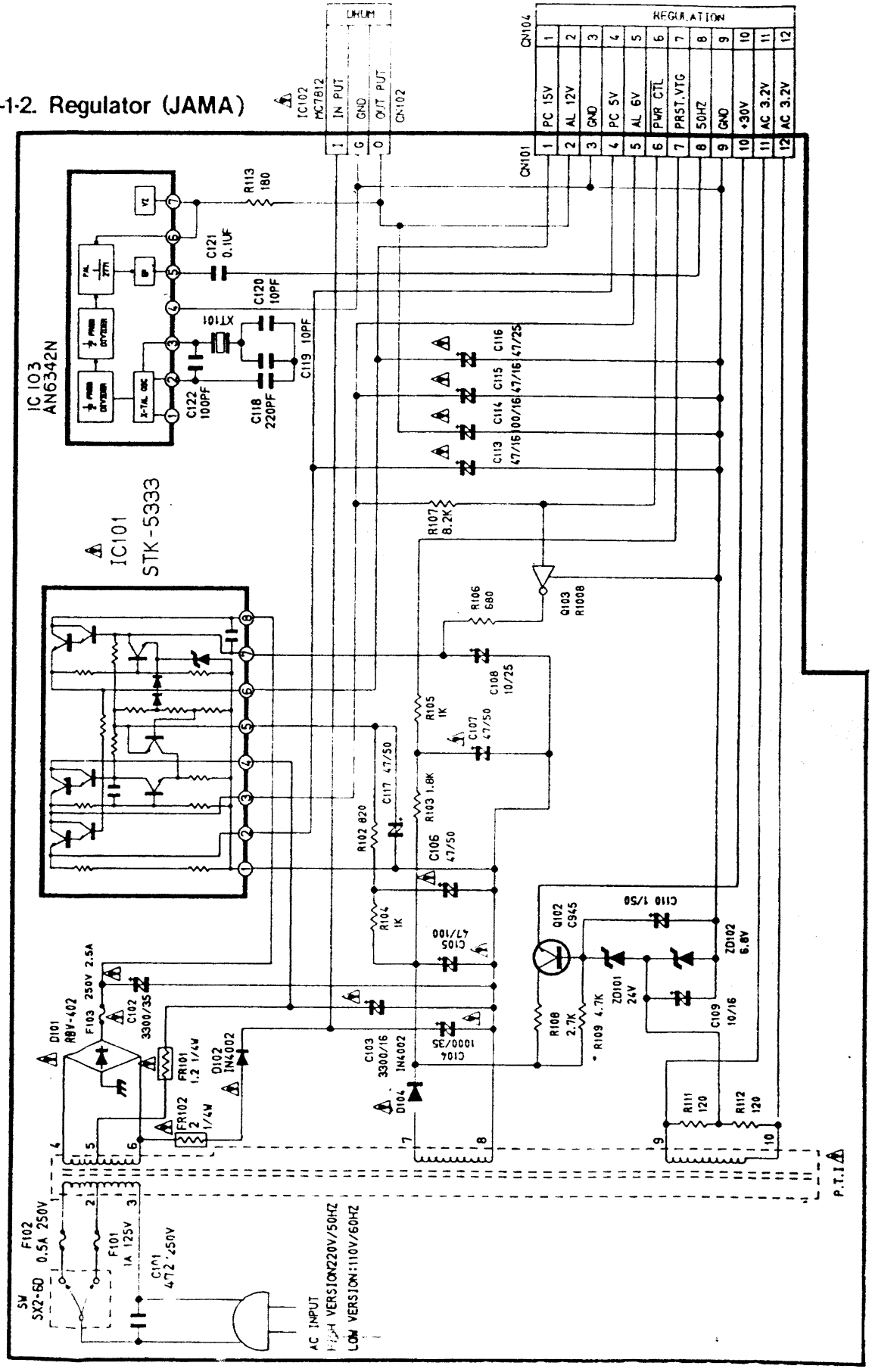
9-16. Remote Control



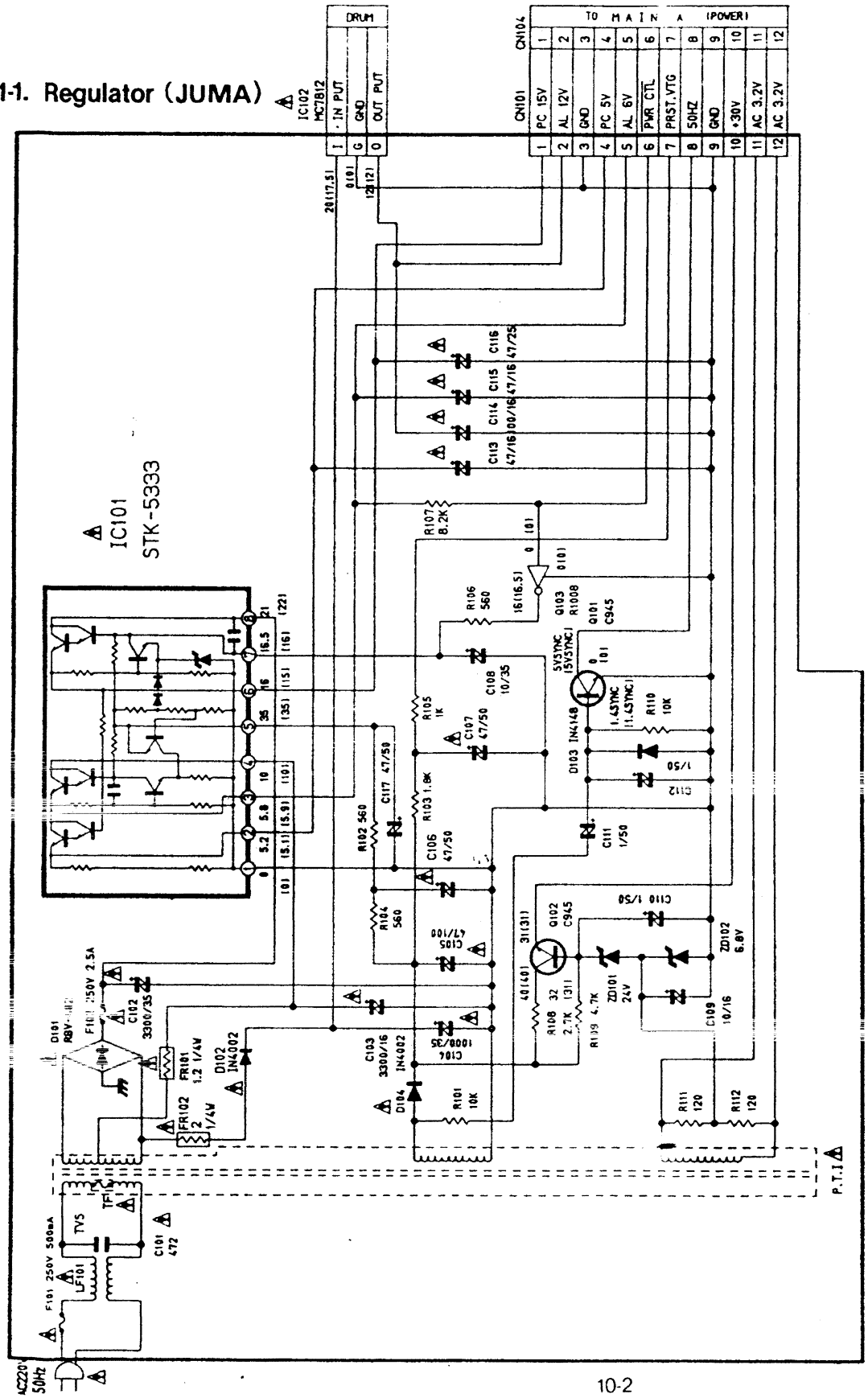
10. SCHEMATICS

10-1-1. Regulator (JUMA)
10-1-2. Regulator (JAMA)
10-2. Power
10-3. System Control
10-4. Servo
10-5. Luminance/Chrominance
10-6. Audio
10-7. Pre-Amp
10-8. Tuner
10-9. Timer/Input Key
10-10. Deck Joint
10-11. Function Switch
10-12. Remote Control

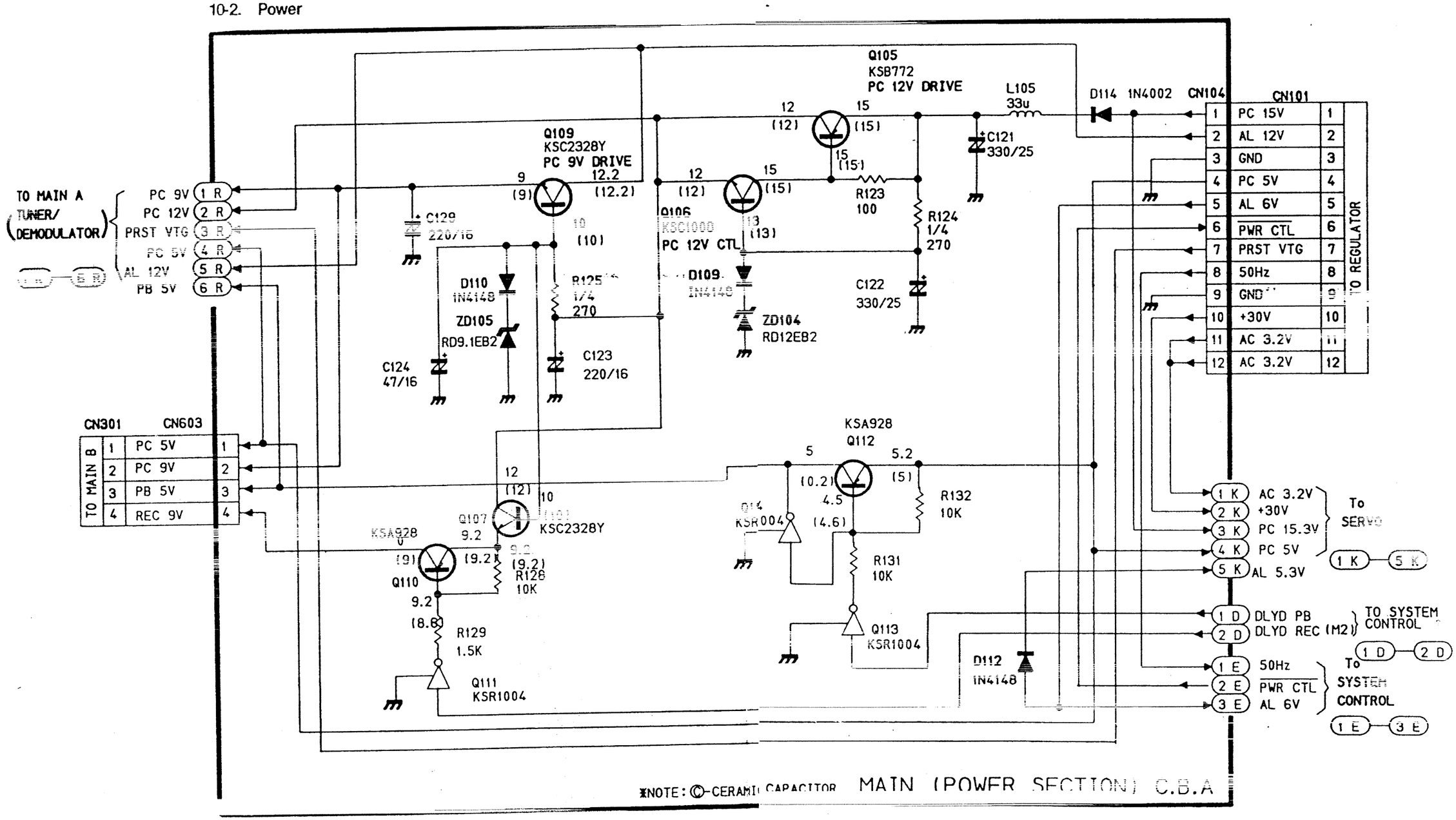
10-1-2. Regulator (JAMA)



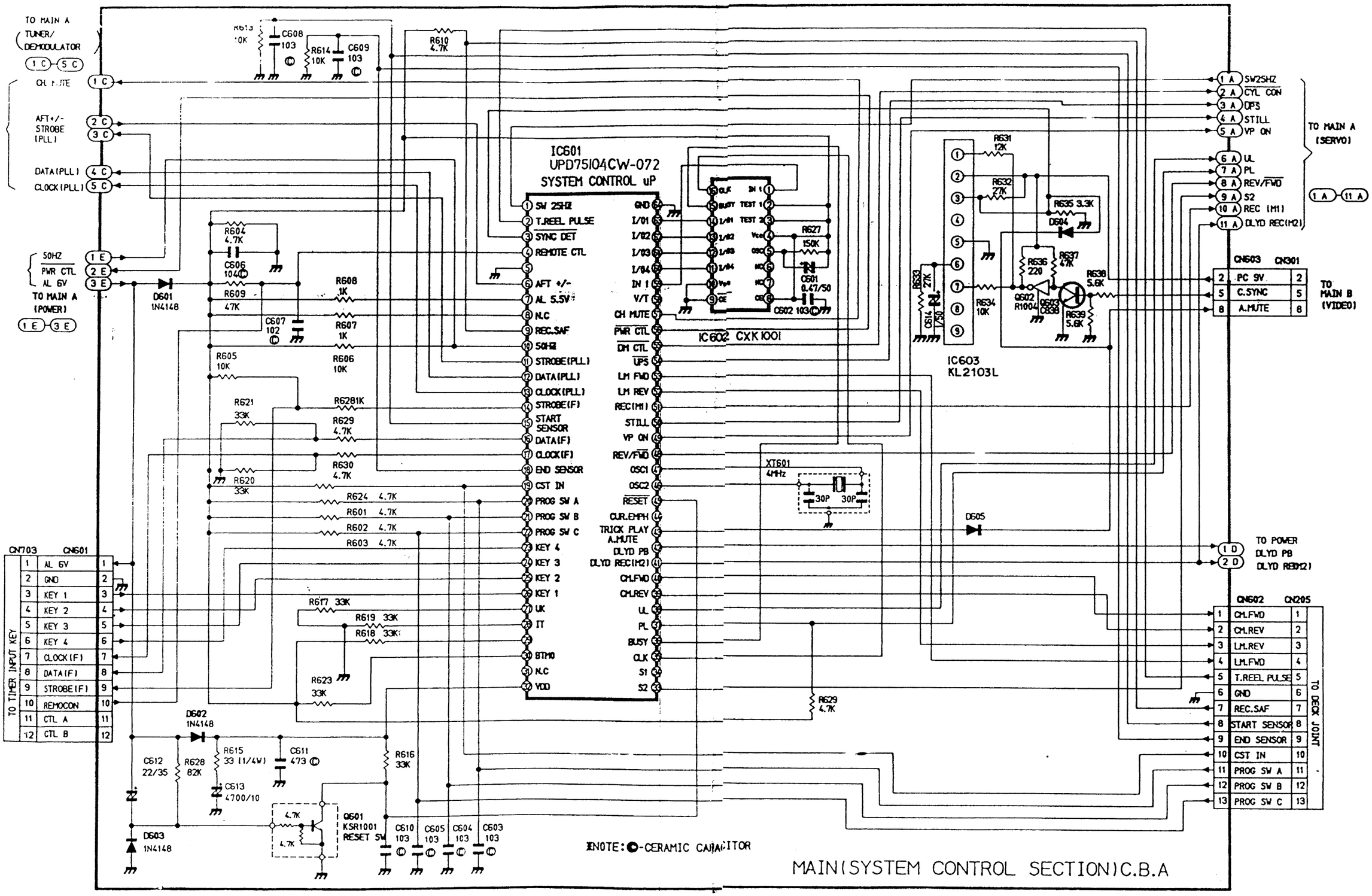
10-1-1. Regulator (JUMA)

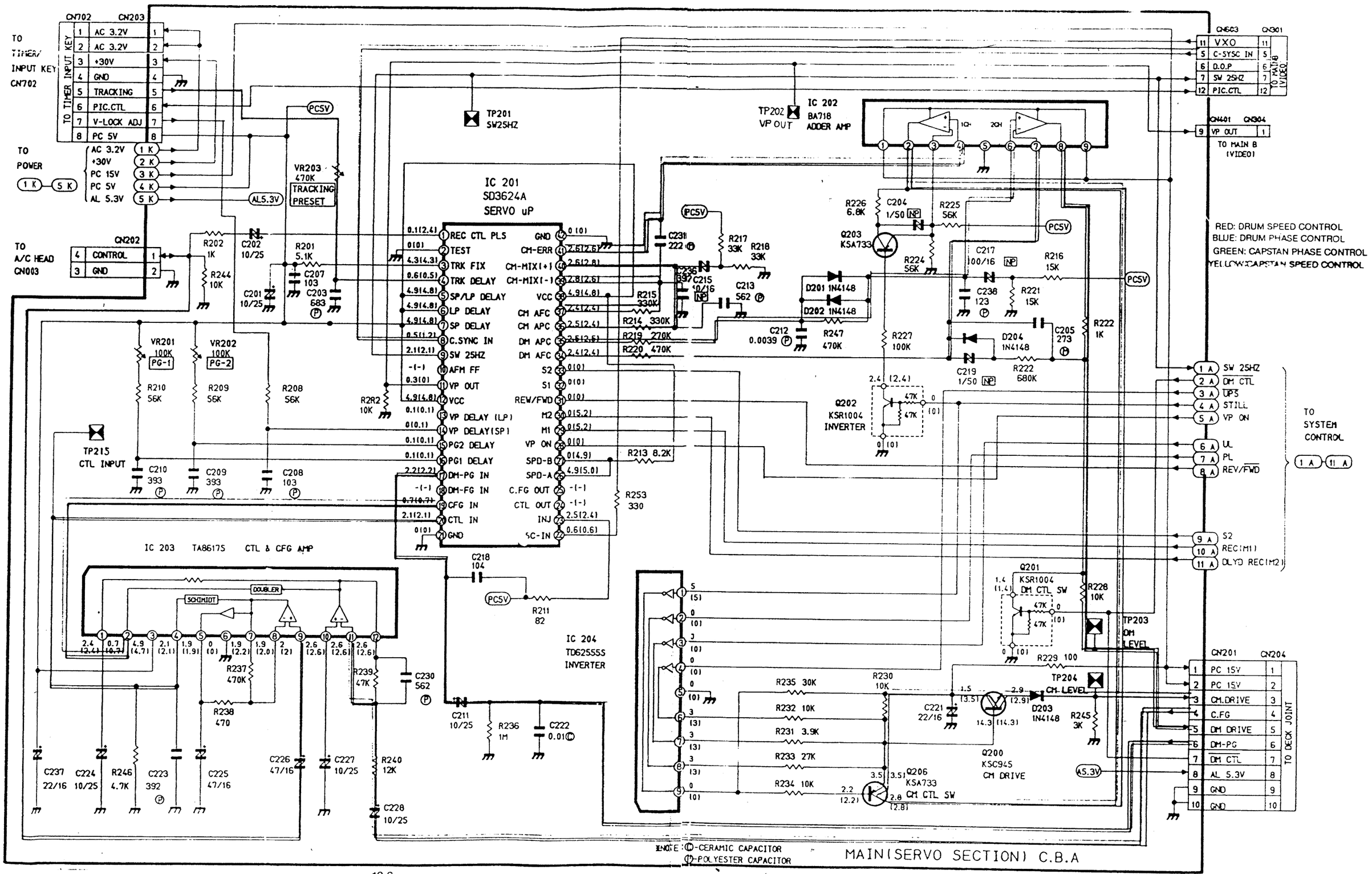


10-2. Power



*NOTE: Ⓒ-CERAMIC CAPACITOR MAIN (POWER SECTION) C.B.A


IC601
UPD75104CW-072
SYSTEM CONTROL uP
IC602 CXK1001
IC603
KL2103L
XT601
4MHz
30P 30P
Q601
KSR1001
RESET SW
D601 1N4148
D602 1N4148
D603 1N4148
D605
TO MAIN A (TUNER/ DEMODULATOR)
CH MUTE
AFT+/- STROBE (PLL)
DATA(PLL)
CLOCK(PLL)
50HZ
PWR CTL
AL 6V
TO MAIN A (POWER)
TO MAIN A (SERVO)
SW 25HZ
CYL CON
CPS
STILL
VP ON
UL
PL
REV/FWD
S2
REC (M1)
DLYD REC(M2)
TO MAIN B (VIDEO)
PC 9V
C.SYNC
A.MUTE
TO POWER
DLYD PB
DLYD REC(M2)
TO DECK JOINT
TO TIMER INPUT KEY
AL 6V
GND
KEY 1
KEY 2
KEY 3
KEY 4
CLOCK(F)
DATA(F)
STROBE(F)
REMOCON
CTL A
CTL B
T.REEL PULSE
REMOTE CTL
AFT +/-
AL 5.5V
N.C
REC.SAF
50HZ
STROBE(PLL)
DATA(PLL)
CLOCK(PLL)
STROBE(F)
START SENSOR
DATA(F)
CLOCK(F)
END SENSOR
CST IN
PROG SW A
PROG SW B
PROG SW C
KEY 4
KEY 3
KEY 2
KEY 1
UK
IT
BTM0
N.C
VDD
I/O1
I/O2
I/O3
I/O4
IN 1
V/T
PWR CTL
DM CTL
UPS
LM FWD
LM REV
REC(M1)
STILL
VP ON
REV/FWD
OSC1
OSC2
RESET
CUR.EMPH
TRICK PLAY A.MUTE
DLYD PB
DLYD REC(M2)
CM.FWD
CM.REV
UL
PL
BUSY
CLK
S1
S2
CM.FWD
CM.REV
LM.REV
LM.FWD
T.REEL PULSE
GND
REC.SAF
START SENSOR
END SENSOR
CST IN
PROG SW A
PROG SW B
PROG SW C
NOTE: ©-CERAMIC CAPACITOR
MAIN(SYSTEM CONTROL SECTION)C.B.A


CN702 CN203
TO TIMER/ INPUT KEY CN702
TO TIMER INPUT KEY
1 AC 3.2V 1
2 AC 3.2V 2
3 +30V 3
4 GND 4
5 TRACKING 5
6 PIC.CTL 6
7 V-LOCK ADJ 7
8 PC 5V 8
TO POWER
AC 3.2V 1K
+30V 2K
PC 15V 3K
PC 5V 4K
AL 5.3V 5K
1K 5K
PCSV
AL5.3V
VR203 470K TRACKING PRESET
TP201 SW25HZ
TP202 VP OUT
IC 202 BA718 ADDER AMP
1CH 2CH
CN603 CN301
11 VXO 11
5 C-SYSC IN 5
6 D.O.P 6
7 SW 25HZ 7
12 PIC.CTL 12
TO MAIN (VIDEO)
CN401 CN304
9 VP OUT 1
TO MAIN B (VIDEO)
RED: DRUM SPEED CONTROL
BLUE: DRUM PHASE CONTROL
GREEN: CAPSTAN PHASE CONTROL
YELLOW: CAPSTAN SPEED CONTROL
CN202
TO A/C HEAD CN003
4 CONTROL 1
3 GND 2
R202 1K
R244 10K
C202 10/25
C201 10/25
R201 5.1K
C207 103
C203 683 (P)
IC 201
SD3624A
SERVO uP
REC CTL PLS
TEST
TRK FIX
TRK DELAY
SP/LP DELAY
LP DELAY
SP DELAY
C.SYNC IN
SW 25HZ
AFM FF
VP OUT
VCC
VP DELAY (LP)
VP DELAY(SP)
PG2 DELAY
PG1 DELAY
DM-PG IN
DM-FG IN
CFG IN
CTL IN
GND
CM-ERR
CM-MIX(+)
CM-MIX(-)
VCC
CM AFC
CM APC
DM APC
DM AFC
S2
S1
REV/FWD
M2
M1
VP ON
SPD-B
SPD-A
C.FG OUT
CTL OUT
INJ
SC-IN
C231 222 (P)
R217 33K
R218 33K
C236 337
C215 10/16 NP
C213 562 (P)
R215 330K
R214 330K
R219 270K
R220 470K
C212 0.0039 (P)
R247 470K
D201 1N4148
D202 1N4148
R226 6.8K
C204 1/50 NP
R225 56K
Q203 KSA733
R224 56K
C217 00/16 NP
R216 15K
C238 123 (P)
R221 15K
D204 1N4148
C205 273 (P)
R222 1K
C219 1/50 NP
R222 680K
R227 100K
Q202 KSR1004 INVERTER
R213 8.2K
R253 330
VR201 100K PG-1
VR202 100K PG-2
R210 56K
R209 56K
R208 56K
R2R2 10K
TP215 CTL INPUT
C210 393 (P)
C209 393 (P)
C208 103 (P)
IC 203 TA86175 CTL & CFG AMP
DOUBLER
SCHMIDT
R237 470K
R238 470
C237 22/16
C224 10/25
R246 4.7K
C223 392 (P)
C225 47/16
C226 47/16
C227 10/25
R240 12K
C228 10/25
C218 104
R211 82
C211 10/25
R236 1M
C222 0.01 (C)
C230 562 (P)
IC 204 TD62555S INVERTER
R235 30K
R232 10K
R231 3.9K
R233 27K
R234 10K
R230 10K
C221 22/16
Q206 KSA733 CM CTL SW
Q200 KSC945 CM DRIVE
D203 1N4148
R245 3K
TP204 CM LEVEL
Q201 KSR1004 DM CTL SW
R228 10K
TP203 DM LEVEL
R229 100
A5.3V
1 A SW 25HZ
2 A DM CTL
3 A UPS
4 A STILL
5 A VP ON
6 A UL
7 A PL
8 A REV/FWD
9 A S2
10 A REC(M1)
11 A DLYD REC(M2)
TO SYSTEM CONTROL
1 A 11 A
CN201 CN204
1 PC 15V 1
2 PC 15V 2
3 CM.DRIVE 3
4 C.FG 4
5 DM DRIVE 5
6 DM-PG 6
7 DM CTL 7
8 AL 5.3V 8
9 GND 9
10 GND 10
TO DECK JOINT
NOTE : (C)-CERAMIC CAPACITOR
(P)-POLYESTER CAPACITOR
MAIN(SERVO SECTION) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 101						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	5	5	5	5	5	5	5
PIN 3	6	6	6	6	6	6	6
PIN 4	10	9	9	9	9	9	9
PIN 5	21	21	21	21	21	21	21
PIN 6	15	15	15	15	15	15.5	15.5
PIN 7	17	16.5	16.5	16.5	16.5	16.5	16.5
PIN 8	22	21	22	21	21	21	21

Regulator C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 102						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
I	19	19	19	19	19	19	19
G	0	0	0	0	0	0	0
O	13	12.5	12.5	12.5	12.5	13	13

Regulator C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 103						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	3.4	3.4	3.4	3.4	3.4	3.4	3.4
PIN 2	2.8	2.8	2.8	2.8	2.8	2.8	2.8
PIN 3	3.2	3.2	3.2	3.2	3.2	3.2	3.2
PIN 4	0	0	0	0	0	0	0
PIN 5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
PIN 6	9.3	9.3	9.3	9.3	9.3	9.3	9.3
PIN 7	9.3	9.3	9.3	9.3	9.3	9.3	9.3

Regulator C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
Tr No.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 101	0	5	1.2	0	5	1.2	0	5	1.2	0	5	1.2	0	5	1.2	0	5	2	0	5	2
Q 102	32	32	32.5	31	31	32	32	32	32.5	31	31.5	32	31.5	32	32.5	31.5	32	32.5	31.5	32	32.5
Q 103	0	16	0	0	16	0	0	16	0	0	16	0	0	16.5	0	0	16.5	0	0	16.5	0

Regulator C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
TR NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 105	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15
Q 106	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13
Q 107	9.2	12	10	9.2	12	10	4.2	12	10	4.2	12	10	9.2	12	10	9.2	12	10	9.2	12	10
Q 109	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10
Q 110	9.2	0	9.2	9.2	9	8.6	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2
Q 111	0	9.2	0	0	0	5	0	9.2	0	0	9.2	0	0	9.2	0	0	9.2	0	0	9.2	0
Q 112	5	0.2	4.6	5.	0.2	4.6	5.2	5	4.5	5	0.2	4.6	5	0.2	4.6	5	0.2	4.6	5	0.2	4.6
Q 113	0	4	0	0	4	0	0	0	5	0	4	0	0	4	0	0	0	5	0	0	5
Q 114	0	0.2	4	0	0.2	4	0	5	0	0	0.2	4	0	0.2	4	0	5	0	0	5	0

Main (Power) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 601						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	4.5	2.0	2.0	2.1	2.1	2.1	2.1
PIN 2	0	—	—	—	—	—	—
PIN 3	0	0	0	0	0	0	0
PIN 4	5	5	5	5	5	5	5
PIN 5	0	0	0	0	0	0	0
PIN 6	3.4	3.4	3.4	3.4	3.4	3.4	3.4
PIN 7	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 9	0	5	0	5	5	5	5
PIN 10	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 11	0	0	0	0	0	0	0
PIN 12	5	5	5	5	5	5	5
PIN 13	0	0	0	0	0	0	0
PIN 14	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PIN 15	0	0	0	0	0	0	0
PIN 16	0.6	0.6	0.6	0.6	0.6	0.6	0.6
PIN 17	5	5	5	5	5	5	5
PIN 18	0	0	0	0	0	0	0
PIN 19	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 20	0	5.1	5.1	5.1	5.1	0	5.1
PIN 21	4.6	0	0	0	0	4.8	0
PIN 22	0	5.1	5.1	0	0	5	5
PIN 23	0	0	0	0	0	0	0
PIN 24	0	0	0	0	0	0	0
PIN 25	0	0	0	0	0	0	0
PIN 26	0	0	0	0	0	0	0
PIN 27	0	0	0	0	0	0	0
PIN 28	0	0	0	0	0	0	0
PIN 29	5.1	5	5	5	5	5	5
PIN 30	5.1	5	5	5	5	5	5
PIN 31	0	0	0	0	0	0	0
PIN 32	5.1	5	5	5	5	5	5
PIN 33	0	0	0	5	5	5	5
PIN 34	0	0	0	0	0	0	0
PIN 35	5.1	5	5	5	5	5	5
PIN 36	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 37	0	0	0	0	0	0	0
PIN 38	0	0	0	0	0	0	0

Main (System Control) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 601						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 39	4.8	4.8	4.8	4.8	0	4.8	0
PIN 40	4.8	4.8	4.8	0	4.8	0	5
PIN 41	0	5	0	0	0	0	0
PIN 42	0	0	5	0	0	5	5
PIN 43	0	0	0	0	0	5	5
PIN 44	0	0	0	0	0	0	0
PIN 45	5	5	5	5	5	5	5
PIN 46	2.8	2.8	2.8	2.8	2.8	2.8	2.8
PIN 47	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 48	0	0	0	5	0	5	0
PIN 49	0	0	0	5	5	5	5
PIN 50	0	0	0	0	0	0	0
PIN 51	0	5	0	0	0	0	0
PIN 52	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 53	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 54	0	5	5	5	5	5	5
PIN 55	5	0	0	5	5	0	0
PIN 56	0	0	0	0	0	0	0
PIN 57	0	0	0	0	0	0	0
PIN 58	5	5	5	5	5	5	5
PIN 59	5	5	5	5	5	5	5
PIN 60	5	5	5	5	5	5	5
PIN 61	5	5	5	5	5	5	5
PIN 62	5	5	5	5	5	5	5
PIN 63	5	5	5	5	5	5	5
PIN 64	0	0	0	0	0	0	0

Main (System Control) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
Tr NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 601	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8
Q 602	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5
Q 603	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3

Main (System Control) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 602						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	5	5	5	5	5	5	5
PIN 2	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 3	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 4	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 5	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 6	0	0	0	0	0	0	0
PIN 7	0	0	0	0	0	0	0
PIN 8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 9	0	0	0	0	0	0	0
PIN 10	0	0	0	0	0	0	0
PIN 11	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 12	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 13	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 14	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 15	5	5	5	5	5	5	5
PIN 16	5.1	5.1	5.1	5.1	5.1	5.1	5.1

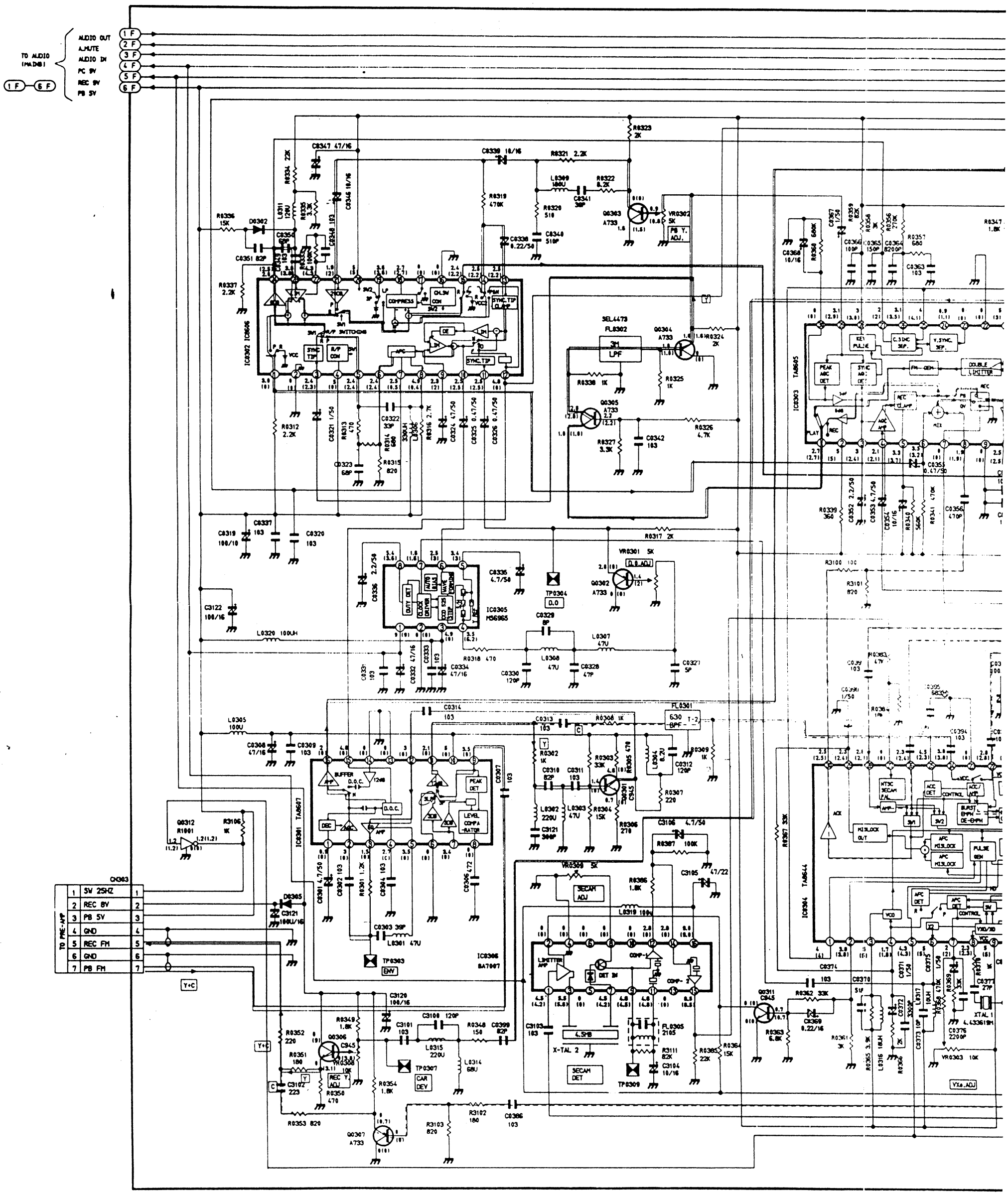
Main (System Control) C.B.A

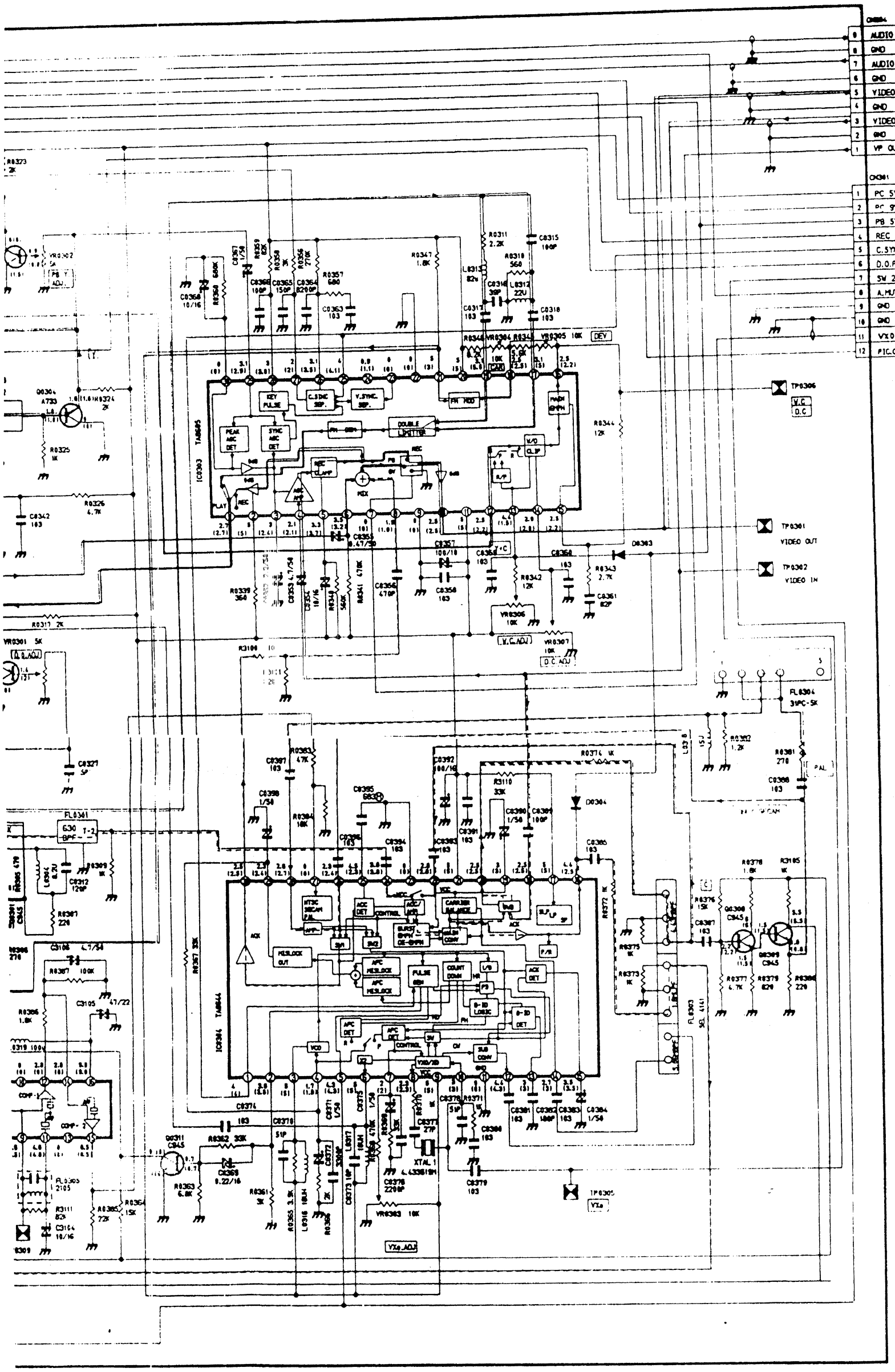
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 603						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.7	0.7	0.7	0.7	0.7	0.7	0.7
PIN 2	9.7	9.7	9.7	9.7	9.7	9.7	9.7
PIN 3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
PIN 4	2.2	2.2	2.2	2.2	2.2	2.2	2.2
PIN 5	0	0	0	0	0	0	0
PIN 6	1.8	1.8	1.8	1.8	1.8	1.8	1.8
PIN 7	0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 8	6	6	6	6	6	6	6

Main (System Control) C.B.A

10-5. Luminance/Chrominance





RED: CHROMINANCE PLAYBACK
LUMINANCE PLAYBACK

BLUE: CHROMINANCE RECORD
LUMINANCE RECORD

REV S. REVERSE SEARCH
FWD S. FORWARD SEARCH

	IC 201						
	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
1	0.3	2.4	2.2	0.7	3.6	2.8	2.8
2	0	0	0	0	0	0	0
3	4.6	4.6	4.5	4.3	3.6	4.3	4.3
4	2.6	1.4	1	0.7	0.7	0.7	0.7
5	5.1	5.2	5.2	4.9	5.2	4.9	5
6	5.1	5.2	5.2	4.9	5.2	4.9	5
7	5.1	5.2	5.2	4.9	5.2	4.9	5
8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9	4.1	2.1	2.1	4.1	4.0	2.1	2.1
10	—	—	—	—	—	—	—
11	0	0	0	0	0	0.4	0.3
12	5.1	5.2	5.2	4.4	5.2	5	5
13	0	0	0	0	0	0	0
14	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0
17	2.4	2.4	2.4	2.4	2.4	2.4	2.4
18	—	—	—	—	—	—	—
19	4.6	0.7	0.7	0.4	0.3	0.3	0.3
20	0	2.1	2.1	0	0	2.4	2.4
21	0	0	0	0	0	0	0
22	0.7	0.6	0.6	0.7	0.7	0.7	0.7
23	2.5	2.7	2.5	2.4	2.4	2.4	2.4
24	—	—	—	—	—	—	—
25	—	—	—	—	—	—	—
26	5	4	5	5	5	5	5
27	5	4	5	5	5	5	5
28	0	0	0	5.2	5	5.2	5
29	0		0	0	0	0	0
30	0	5	0	0	0	0	0
31	0	0	0	5	0	5.2	0
32	0	0	0	0	0	0	0
33	0	0	0	5	5	5	5
34	0.1	2.4	2.4	0.1	0.1	2.4	2.5
35	2.4	2.5	2.5	2.4	2.4	2.5	2.5
36	2.4	2.4	2.5	2.4	2.4	2.5	2.5
37	0	2.4	2.4	2.4	2.4	2.5	2.5
38	5.1	5.2	5.2	5	5	5	5

Main (Servo) C.B.A

REV S. REVERSE SEARCH
FWD S. FORWARD SEARCH

MODE	IC 201						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 39	1	2.6	2.8	2	3	2.4	2.5
PIN 40	2.6	2.6	2.8	2	3	2.4	2.4
PIN 41	4.4	2.6	2.4	2.5	2.5	2.5	2.4
PIN 42	0	0	0	0	0	0	0

Main (Servo) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 202						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	14.2	14.7	15	14.1	14.0	14.1	14.1
PIN 2	12.9	2.8	2.8	9.2	10.2	10.0	9.5
PIN 3	2.6	2.6	2.4	2.5	2.5	2.4	2.5
PIN 4	4.2	2.4	2.4	2.5	2.5	2.5	2.5
PIN 5	0	0	0	0	0	0	0
PIN 6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 7	0.1	2.5	2.5	0.1	0.1	2.4	2.4
PIN 8	12.8	1.6	1.6	12.7	12.8	1.8	1.4
PIN 9	14.2	14.4	15	14.1	14.0	14.1	14.1

Main (Servo) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 203						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	2.5	2.4	2.4	2.4	2.4	2.4	2.4
PIN 2	4.5	0.7	0.7	0.4	0.4	0.4	0.4
PIN 3	5.1	5.2	5.2	5	5	5	5
PIN 4	4.2	2.1	2.1	0	0	2.4	2.3
PIN 5	2	2.2	2	2	2	2	2
PIN 6	0	0	0	0	0	0	0
PIN 7	2	2.2	2	2	2	2	2
PIN 8	2	2.2	2	2	2	2	2
PIN 9	2	2	2	2	2	2	2
PIN 10	2.5	2.6	2.6	2.6	2.6	2.6	2.6
PIN 11	2.5	2.6	2.6	2.6	2.6	2.6	2.6
PIN 12	2.5	2.6	2.6	2.6	2.6	2.6	2.6

Main (Servo) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 204						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	5	5	5	5	5	5
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	0	0	0	0	0
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	13.9	3	3	10.5	9	9.7	9.5
PIN 7	13.9	3	3	10.5	9	9.7	9.5
PIN 8	13.9	3	3	10.5	9	9.7	9.5
PIN 9	13.9	0	0	0	0	0	0

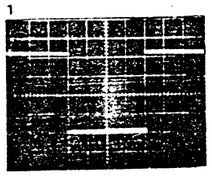
Main (Servo) C.B.A

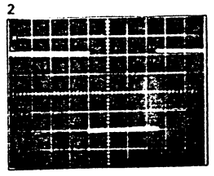
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

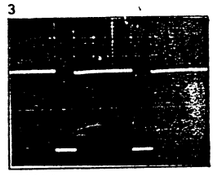
MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
TR NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 201	0	0	5.2	0	1.4	0	0	1.4	0	0	0	5.2	0	0	5	0	1.4	0	0	1.4	0
Q 202	0	12.1	0	0	2.4	0	0	2.4	0	0	9	0	0	9	0	0	9	0	0	9	0
Q 203	2.4	12.4	12.0	2.5	2.8	2.4	2.6	2.8	2.4	2.4	9.3	9	2.4	9.8	9.2	2.4	9.5	8.7	2.4	9.4	3
Q 206	13.5	12.5	13.9	2.8	2.8	2.2	2.8	2.8	2.2	9.8	9.3	9.8	9.2	9.2	8	9.8	9.7	9.1	9.8	9.6	9.4
Q 200	12.8	14.0	13.5	2.2	15	2.8	2.4	15	2.8	9.5	13.8	9.9	9	13.8	9.5	9.1	14.1	9.8	8.8	15	9.4

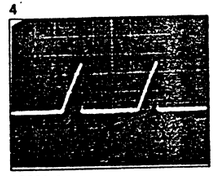
Main (Servo) C.B.A

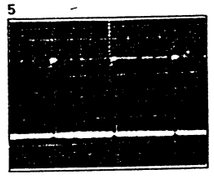
SERVO

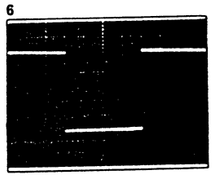
1

TP201
1V/5msec/cm
REC/PLAY

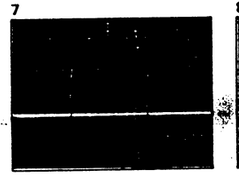
2

TP215
1V/5msec/cm
REC/PLAY

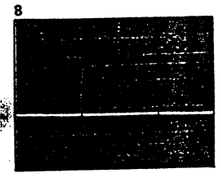
3

IC201-1
1V/10msec/cm
REC/PLAY

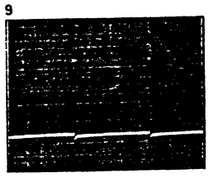
4

IC201-4
0.5V/10msec/cm
REC/PLAY

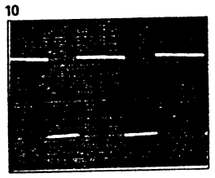
5

IC201-8
1V/5msec/cm
REC/PLAY

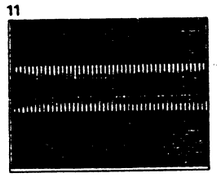
6

IC201-9
1V/5msec/cm
REC/PLAY

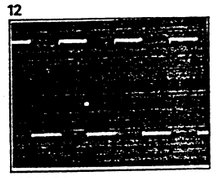
7

IC201-15
1V/10msec/cm
REC/PLAY

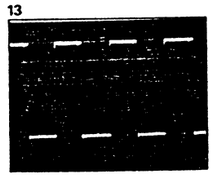
8

IC201-16
1V/10msec/cm
REC/PLAY

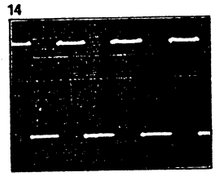
9

IC201-19
1V/2msec/cm
REC/PLAY

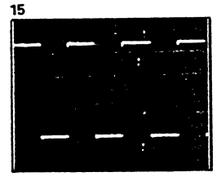
10

IC201-20
1V/10msec/cm
PLAY

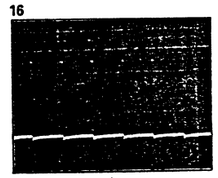
11

IC201-22
0.1V/1μsec/cm
REC/PLAY

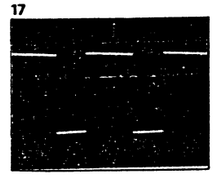
12

IC201-34
1V/10μsec/cm
REC/PLAY

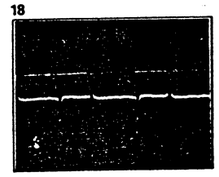
13

IC201-35
1V/10μsec/cm
REC/PLAY

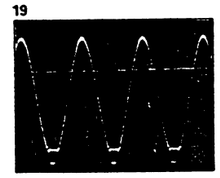
14

IC201-36
1V/10μsec/cm
REC/PLAY

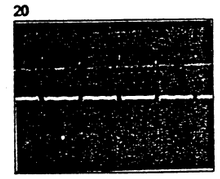
15

IC201-37
1V/10μsec/cm
REC/PLAY

16

IC203-2
1V/0.5msec/cm
REC/PLAY

17

IC203-4
1V/10msec/cm
PLAY

18

IC203-7
0.5V/10msec/cm
PLAY

19

IC203-12
0.5V/0.5msec/cm
REC/PLAY

20

IC201-17
0.2V/10msec/cm
REC/PLAY

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 301 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0.9	0	0	0.9	0.9
PIN 2	0	0	3.0	0	0	3.0	3.0
PIN 3	0	0	1.5	0	0	1.5	1.5
PIN 4	0	0	2.7	0	0	2.6	2.7
PIN 5	0.5	0	3.5	0	0	3.4	3.5
PIN 6	0	0	0	0	0	0	0
PIN 7	0	0	3.4	0	0	3.4	3.5
PIN 8	0	0	0	0	0	0	0.1
PIN 9	0	0	3.5	0	0	3.4	3.5
PIN 10	0	0	4.9	0	0	4.9	4.9
PIN 11	0	0	2.1	0	0	2.1	2.1
PIN 12	0	0	3.0	0	0	3.0	3.0
PIN 13	0	0	0	0	0	0	0
PIN 14	0	0	0	0	0	0	0
PIN 15	0	0	4.8	0	0	4.8	4.8
PIN 16	0	0	2.0	0	0	2.0	2.0

Main (Luma/Chroma) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 302 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.2	3.1	3.1	0.2	0.2	3.1	3.1
PIN 2	0	0	0	0	0	0	0
PIN 3	2.4	2.3	2.4	2.4	2.4	2.4	2.4
PIN 4	0.2	5	4.9	0.2	0	5	5.0
PIN 5	0.6	2.4	2.4	0.6	0.6	2.4	2.4
PIN 6	0.6	2.4	2.4	0.6	0.6	2.4	2.4
PIN 7	2.5	2.5	2.4	2.5	2.5	2.5	2.4
PIN 8	0.3	5.0	4.9	0.3	0.3	4.9	4.9
PIN 9	2.0	2.0	2.3	1.9	1.9	2.3	2.3
PIN 10	2.2	2.2	2.5	2.2	2.2	2.5	2.5
PIN 11	2.5	2.5	2.5	2.5	2.5	2.6	2.5
PIN 12	0.2	0	4.8	2.0	0.2	4.8	4.8
PIN 13	2.4	2.5	2.5	2.4	2.4	2.5	2.5
PIN 14	2.0	2.2	2.5	1.9	2.0	2.5	2.5
PIN 15	2.3	2.2	2.4	2.3	2.3	2.4	2.4
PIN 16	0	0	0	0	0	0	0
PIN 17	0	0	0	0	0	0	0
PIN 18	2.7	2.7	2.7	2.7	2.6	2.7	2.7
PIN 19	3.6	3.6	3.6	3.6	3.6	3.6	3.6
PIN 20	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 21	1.8	2.0	1.9	1.9	1.8	1.9	1.9
PIN 22	4.3	4.3	4.3	4.3	4.3	4.3	4.3
PIN 23	2.8	3.8	3.8	3.9	3.9	3.8	3.8
PIN 24	2.1	2.0	2.0	2.1	2.1	2.0	2.0

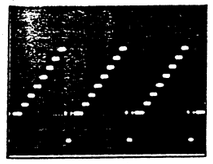
Main (Luma/Chroma) C.B.A

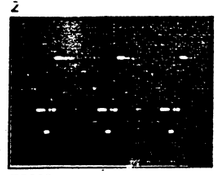
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

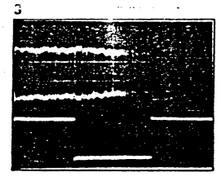
MODE / PIN NO.	IC 303 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	2.7	2.7	2.7	2.7	2.7	2.7	2.7
PIN 2	4.5	5.0	5.0	4.5	4.5	5.0	5.0
PIN 3	2.5	2.4	3.0	2.5	2.5	3.0	3.0
PIN 4	2.1	2.1	2.1	2.1	2.1	2.1	2.1
PIN 5	3.6	3.7	3.3	3.6	3.6	3.3	3.0
PIN 6	3.3	3.2	3.5	3.3	3.3	3.7	3.6
PIN 7	0	0	0	0	0	0	0
PIN 8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
PIN 9	0	0	0	0	0	0	0
PIN 10	1.9	1.5	2.5	1.9	1.9	2.7	2.9
PIN 11	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 12	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 13	1.5	1.5	5.0	1.5	1.5	4.4	4.4
PIN 14	2.0	2.0	2.0	2.0	2.3	2.0	2.0
PIN 15	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 16	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 17	5.0	5.0	3.1	5.0	5.0	3.1	3.1
PIN 18	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 19	5.0	5.0	3.1	5.0	5.0	3.1	3.1
PIN 20	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 21	3.0	3.0	5.0	3.0	3.0	5.0	5.0
PIN 22	0	0	0	0	0	0	0
PIN 23	0	0	0	0	0	0	0
PIN 24	0.9	1.1	0.9	0.9	0.9	0.9	0.9
PIN 25	2.0	4.1	0.4	2.0	2	0.4	0.4
PIN 26	3.6	3.5	3.1	3.6	3.6	3.2	3.4
PIN 27	2.1	2.0	2.0	2.2	2.1	2.2	2.5
PIN 28	1.4	3.7	0.4	1.4	1.4	0.4	0.4
PIN 29	3.0	2.9	3.1	3.0	3.0	3.1	3.4
PIN 30	0	0	0	0	0	0	0

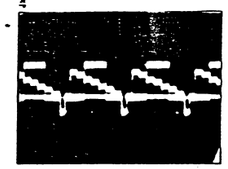
Main (Luma/Chroma) C.B.A

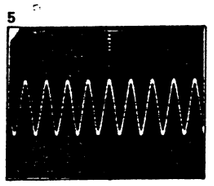
LUMINANCE/CHROMINANCE

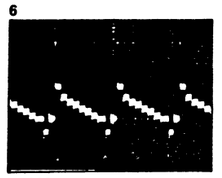
1

TP301
0.5V/20μsec/cm
REC/PLAY

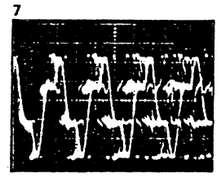
2

TP302
0.5V/20μsec/cm
REC/PLAY

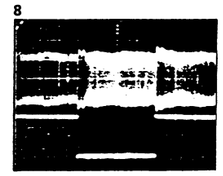
3

TP303
0.1V/5msec/cm
PLAY

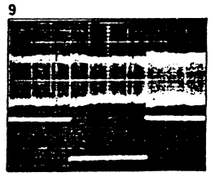
4

TP304
0.2V/20μsec/cm
PLAY

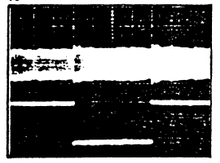
5

TP305
10mV/0.2μsec/cm
REC/PLAY

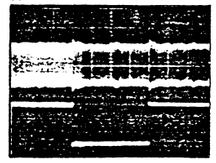
6

TP306
0.2V/20μsec/cm
REC

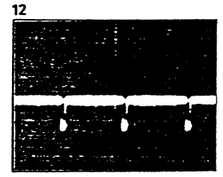
7

TP310
1V/0.1μsec/cm
REC

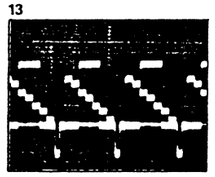
8

IC301-2
10mV/5msec/cm
PLAY

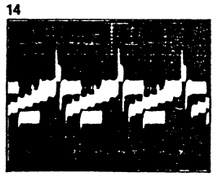
9

IC301-3
20mV/5msec/cm
PLAY

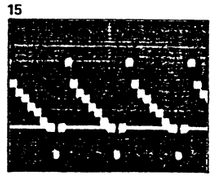
10

IC301-5
20mV/5msec/cm
PLAY

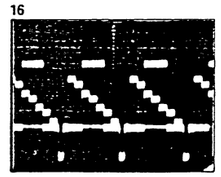
11

IC301-16
0.5V/5msec/cm
PLAY

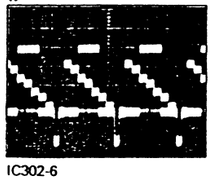
12

IC302-1
0.1V/20μsec/cm
REC

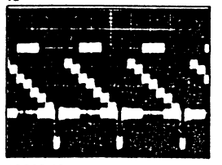
13

IC302-1
0.1V/20μsec/cm
PLAY

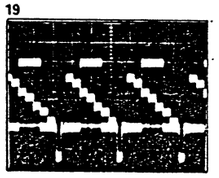
14

IC302-3
50mV/20μsec/cm
PLAY

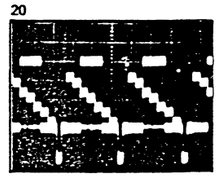
15

IC302-3
0.1V/20μsec/cm
REC

16

IC302-5
0.1V/20μsec/cm
PLAY

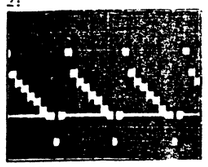
17

IC302-6
0.1V/20μsec/cm
PLAY

18

IC302-10
0.1V/20μsec/cm
PLAY

19

IC302-11
0.1V/20μsec/cm
PLAY

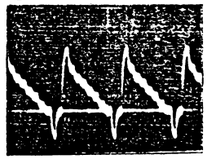
20

IC302-13
0.2V/20μsec/cm
PLAY

21



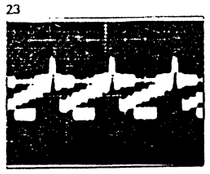
IC302-15
0.1V/20μsec/cm
REC

22



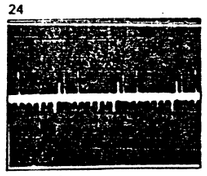
IC302-21
50mV/20μsec/cm
REC

23



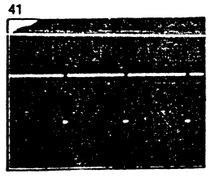
IC302-21
20mV/20μsec/cm
PLAY

24



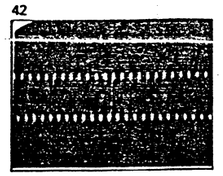
IC302-23
0.2V/20μsec/cm
PLAY

41



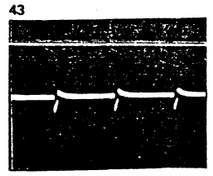
IC304-2
1V/20μsec/cm
REC/PLAY

42



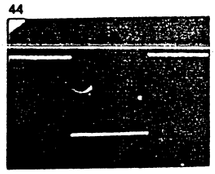
IC304-3
0.1V/0.5μsec/cm
REC/PLAY

43



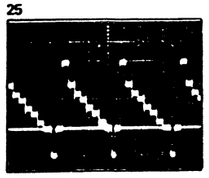
IC304-4
0.1V/20μsec/cm
REC

44



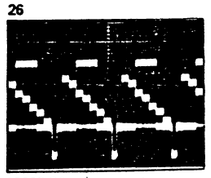
IC304-5
1V/5msec/cm
REC/PLAY

25



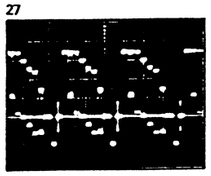
IC302-24
0.2V/20μsec/cm
REC

26



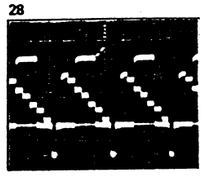
IC302-24
0.2V/20μsec/cm
PLAY

27



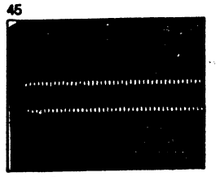
IC303-4
0.2V/20μsec/cm
REC/PLAY

28



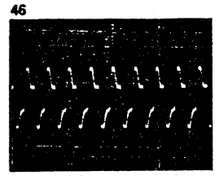
IC303-6
0.1V/20μsec/cm

45



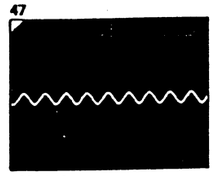
IC304-6
0.1V/0.5μsec/cm
REC/PLAY

46



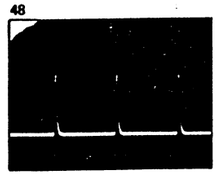
IC304-8
0.5V/0.2μsec/cm
REC/PLAY

47



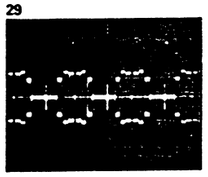
IC304-10
0.5V/0.2μsec/cm
REC/PLAY

48



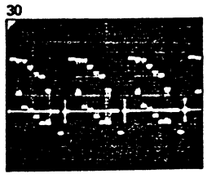
IC304-13
0.5V/20μsec/cm
REC/PLAY

29



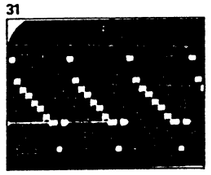
IC303-8
0.2V/20μsec/cm
REC/PLAY

30



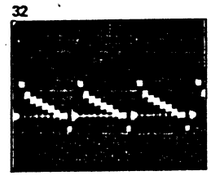
IC303-10
0.5V/20μsec/cm
REC/PLAY

31



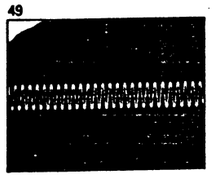
IC303-12
0.5V/20μsec/cm
REC

32



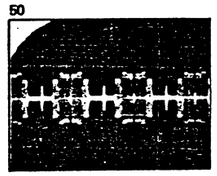
IC303-16
0.2V/5msec/cm
REC

49



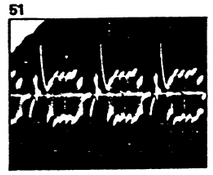
IC304-14
0.2V/0.5μsec/cm
REC/PLAY

50



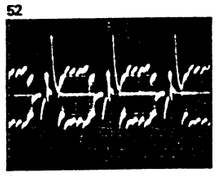
IC304-16
0.5V/20μsec/cm
REC

51



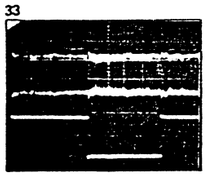
IC304-18
0.2V/20μsec/cm
REC/PLAY

52



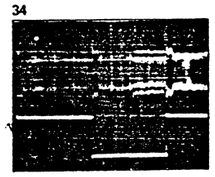
IC304-20
0.2V/20μsec/cm
REC

33



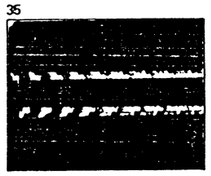
IC303-17
0.5V/5msec/cm
PLAY

34



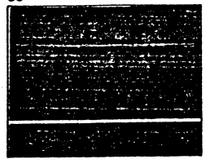
IC302-19
0.1V/5msec/cm
PLAY

35



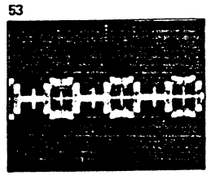
IC303-21
0.5V/0.2μsec/cm
REC

36



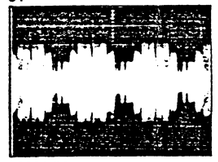
IC303-25
1V/5msec/cm
REC/PLAY

53



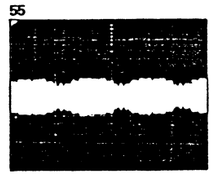
IC304-22
0.1V/20μsec/cm
REC/PLAY

54



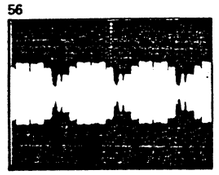
IC304-24
50mV/20μsec/cm
PLAY

55



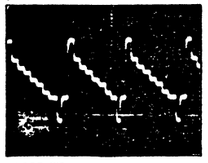
IC304-28
50mV/20μsec/cm
REC/PLAY

56



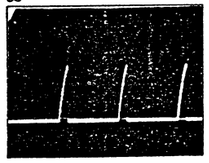
IC304-30
0.2V/20μsec/cm
REC/PLAY

37



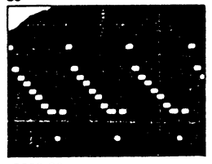
IC303-27
0.2V/20μsec/cm
REC/PLAY

38



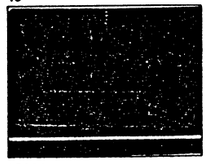
IC303-28
1V/20μsec/cm
REC/PLAY

39



IC303-29
0.1V/20μsec/cm
REC

40

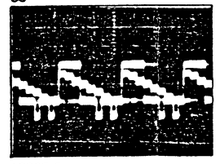


IC304-1
1V/20μsec/cm
REC/PLAY

57

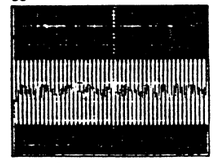
IC305-4
0.5V/20μsec/cm
PLAY

58



IC305-6
0.2V/20μsec/cm
PLAY

59



IC305-7
50mV/0.5μsec/cm
REC/PLAY

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	9	5	9	9	9	9	9
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	4.9	0	0	4.9	4.9
PIN 4	5.2	0	3.3	5.2	5.2	3.3	3.3
PIN 5	3.0	3.0	3.1	2	3	3.1	3.1
PIN 6	4.4	0	2.4	3.6	3	2.4	2.4
PIN 7	1.8	1.0	1.8	1.6	1.7	1.8	1.8
PIN 8	3.4	2.4	5.1	3.5	3.3	5.1	5.1

IC 305

Main (Luma/Chroma) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

PIN NO.		STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
Q301	E	0	0	0.7	0	0	0.7	0.7
	B	0	0	1.4	0	0	1.4	1.4
	C	0	0.2	4.6	0	0	4.6	4.6
Q302	E	0	0	0	0	0	0	0
	B	2	2	1.3	2	2	1.3	1.3
	C	0	0	2	0	0	2	2
Q303	E	0	0	0	0	0	0	0
	B	0.8	0.8	0.9	0.8	0.8	0.9	0.9
	C	1.5	1.5	1.6	1.5	1.5	1.6	1.6
Q304	E	0	0	0	0	0	0	0
	B	0.7	0.7	0.7	0.7	0.7	0.9	0.9
	C	1.3	1.3	1.4	1.3	1.3	1.5	1.5
Q305	E	0.7	0.7	0.8	0.7	0.7	0.8	0.8
	B	2.0	2	2	2	2	2	2
	C	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Q306	E	0	3.1	0	0	0	0	0
	B	0	3.8	0	0	0	0	0
	C	0	9	2	0	0	2	2
Q307	E	0	0	0	0	0	0	0
	B	0	0	0	0	0	0	0
	C	0	0.4	0	0	0	0	0
Q308	E	3	3	3	3	3	3	3
	B	1	1	1	1	1	1	1
	C	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Q309	E	2.7	2.7	2.7	2.7	2.7	2.7	2.7
	B	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	C	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Q311	E	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	B	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	C	0	0	0	0	0	0	0
Q312	E	0	0	0	0	0	0	0
	C	2.2	1.2	1.2	2.2	2.2	1.2	1.2
	B	0	1.2	1.2	0	0	1.2	1.2

Main (Luma/Chroma) C.B.A

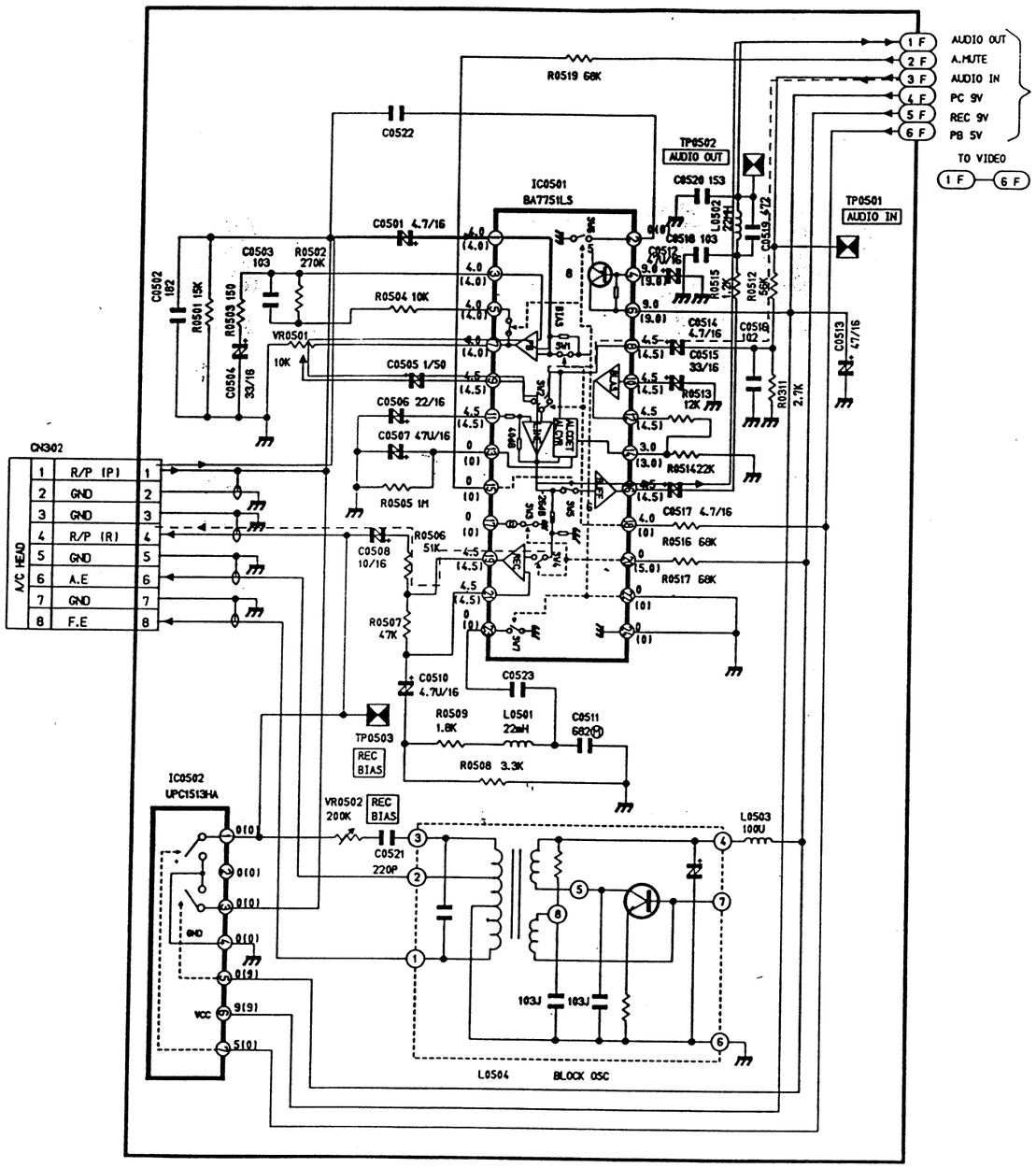
REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.8	4	0.4	0.9	0.8	0.9	4.0
PIN 2	3.7	3.8	3.8	3.7	3.7	3.8	3.8
PIN 3	5.0	5	5.0	5.0	5.0	5.0	5.0
PIN 4	1.7	1.8	1.7	1.7	1.7	2.3	1.8
PIN 5	4.3	4.3	4.3	4.3	4.3	4.3	4.3
PIN 6	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 7	2.2	2.0	2.0	2.2	2.2	2.0	2.0
PIN 8	2.5	2.3	2.3	2.5	2.5	2.3	2.3
PIN 9	5.0	50	5.0	5.0	5.0	5.0	5.0
PIN 10	3.2	3.0	3.0	3.1	3.1	3.0	3.0
PIN 11	0	0	0	0	0	0	0
PIN 12	4.3	4.3	4.4	4.3	4.3	4.3	4.3
PIN 13	3.0	3	3.0	3.0	3.0	3.0	3.0
PIN 14	2.7	3	2.7	2.7	2.7	2.7	3.0
PIN 15	2.4	2.4	2.3	2.3	2.3	2.4	2.4
PIN 16	0	0	4.4	0	0	4.4	0
PIN 17	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 18	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 19	2.9	3.0	3.0	2.9	3.0	3.0	3
PIN 20	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 21	5.0	5	5.0	5.0	5.0	5.0	5.0
PIN 22	2.7	2.8	2.8	2.7	2.7	2.8	2.8
PIN 23	0	0	0.0	0	0	0	0.0
PIN 24	1.7	1.7	2.8	1.7	1.7	2.8	1.7
PIN 25	3.6	2.3	4.5	3.6	3.6	4.0	2.3
PIN 26	2.4	2.4	2.3	2.4	2.4	2.3	2.4
PIN 27	0	0	0.0	0	0	0	0.0
PIN 28	2.7	2.7	2.6	2.7	2.7	2.6	2.7
PIN 29	1.7	2.4	2.3	1.8	1.6	2.3	2.4
PIN 30	2.8	2.8	0	2.8	2.8	0	2.8

IC 304

Main (Luma/Chroma) C.B.A

10-6. Audio



AUDIO

RED: RECORD
PLAYBACK

REV S. : REVERSE SEARCH
FWD S. : FORWARD SEARCH

MODE / PIN NO.	IC 501 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	3.8	4.0	4.0	4.0	4.0	4.0	4.0
PIN 2	0	0	0	0	0	0	0
PIN 3	3.8	4.0	4.0	4.0	4.0	4.0	4.0
PIN 4	9.0	9.0	9.0	9.0	9.0	9.0	9.0
PIN 5	4.0	4.0	4.2	4.0	4.0	4.0	4.0
PIN 6	9.0	9.0	9.0	9.0	0	9.0	9.0
PIN 7	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PIN 8	4.6	4.7	4.6	4.6	4.6	4.7	4.6
PIN 9	4.6	4.4	4.3	4.3	4.6	4.4	4.3
PIN 10	4.6	4.7	4.5	4.7	4.6	4.7	4.6
PIN 11	4.6	4.4	4.3	4.7	4.6	4.4	4.4
PIN 12	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 13	0	0.7	0	0.6	0	0	0
PIN 14	3.0	3.0	3.0	3.0	3.0	3.0	3.0
PIN 15	4.1	4.2	4.0	4.0	4.2	4.2	4.2
PIN 16	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 17	0	0	0	0	0	0	0
PIN 18	0.4	0	4	0.2	0.4	4.2	4.3
PIN 19	4.6	4.6	4.6	4.7	4.6	4.7	4.7
PIN 20	0	5.0	0	0	0	0	0
PIN 21	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 22	0	0	0	0	0	0	0
PIN 23	0	0	0	0	0	0	0
PIN 24	0	0	0	0	0	0	0

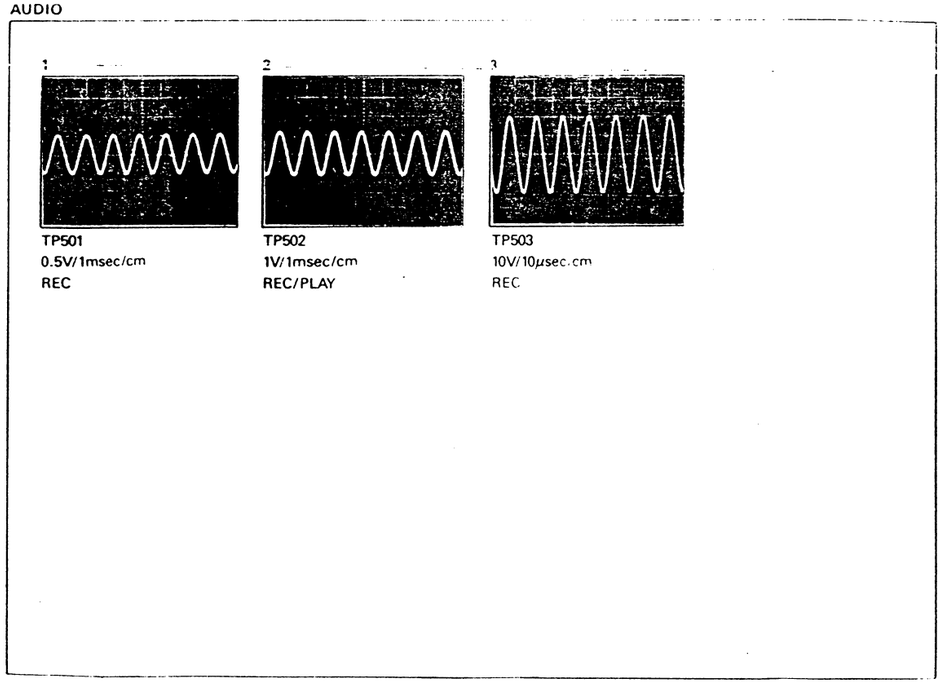
Main (Audio) C.B.A

REV S. : REVERSE SEARCH
FWD S. : FORWARD SEARCH

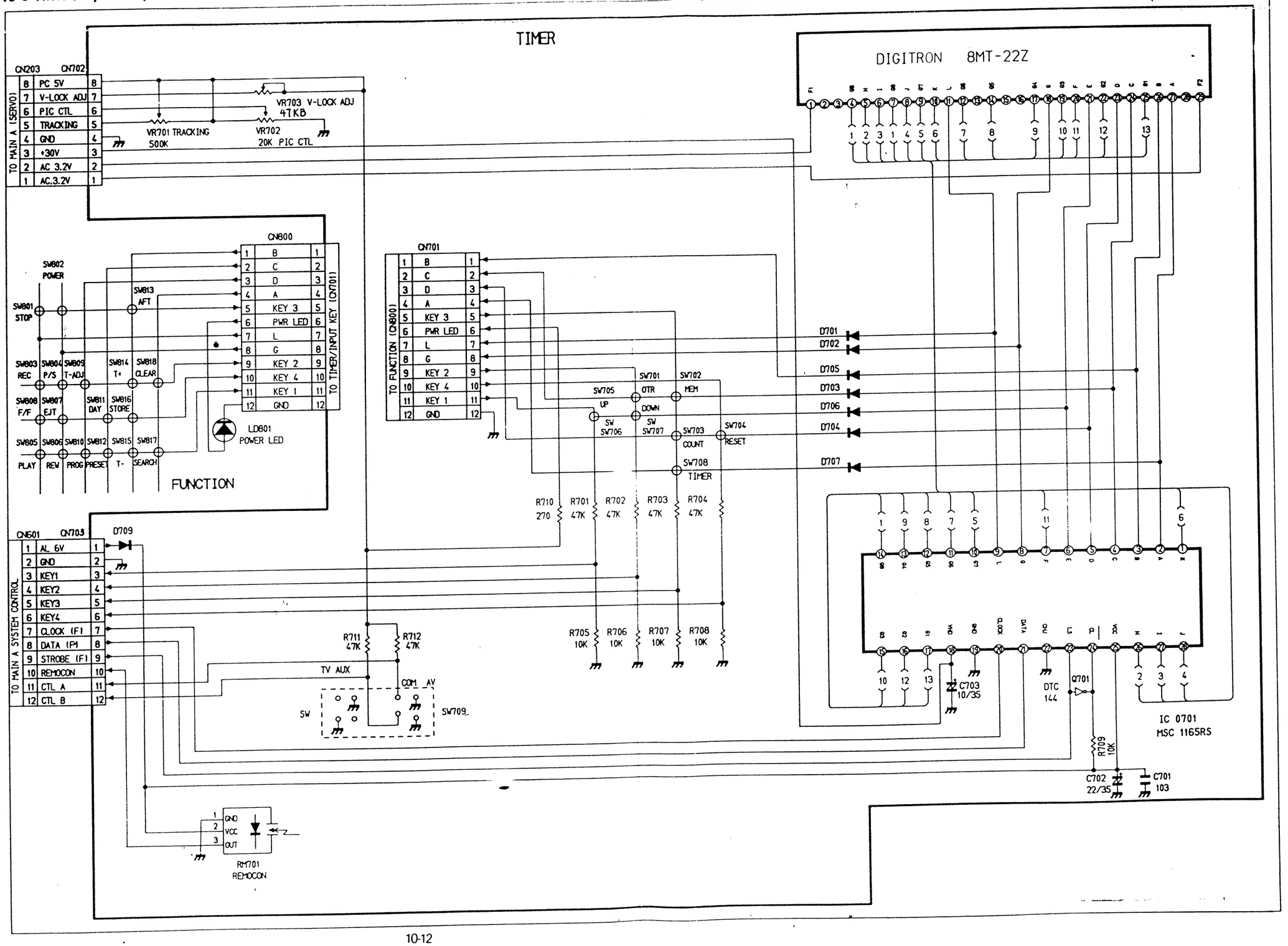
MODE / PIN NO.	IC 502 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	0	0	0	0	0
PIN 4	0	0	0	0	0	0	0
PIN 5	0	9	0	0	0	0	0
PIN 6	9	9	9	9	9	9	9
PIN 7	0	0	5	0	0	5	5

Main (Audio) C.B.A

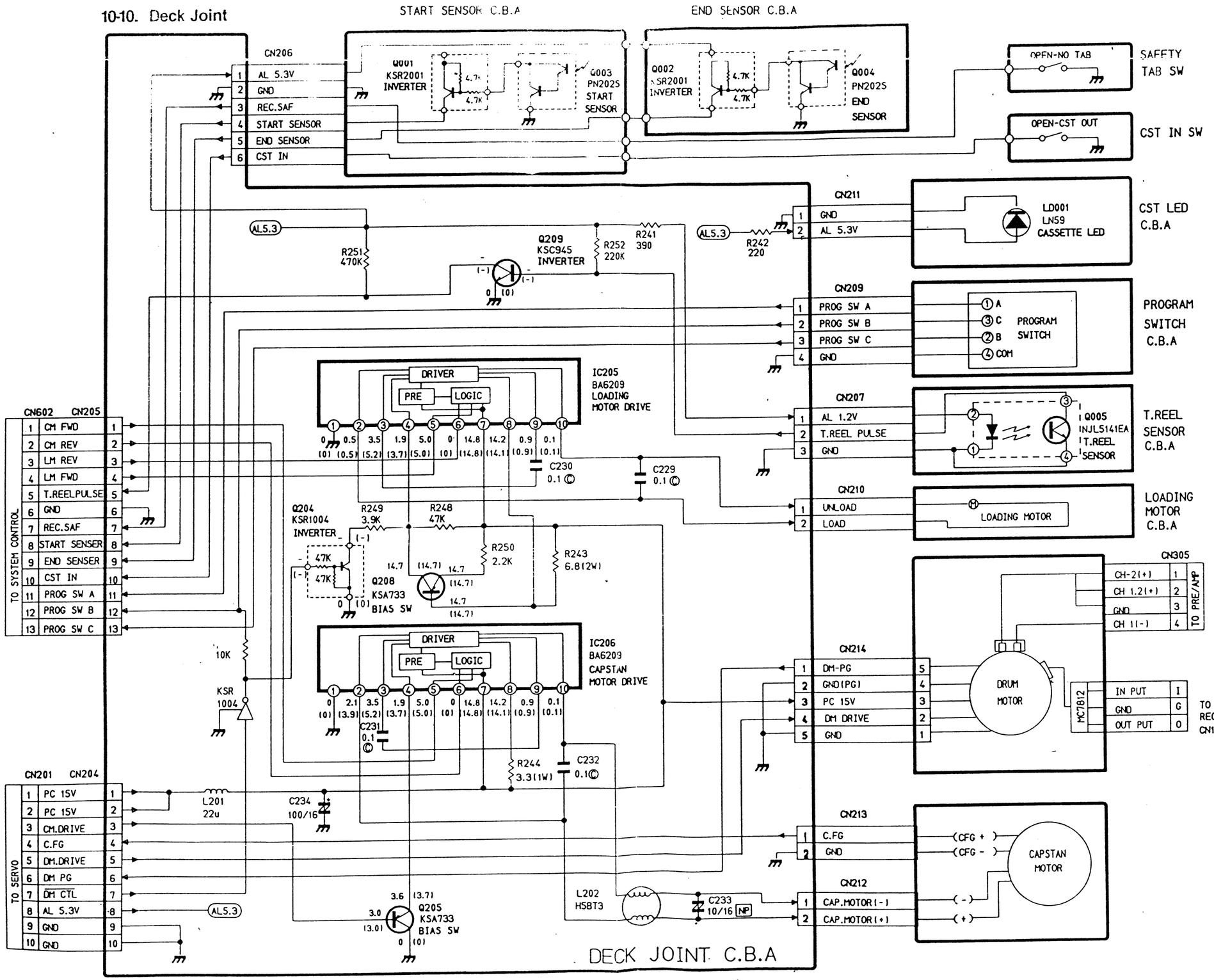
AUDIO



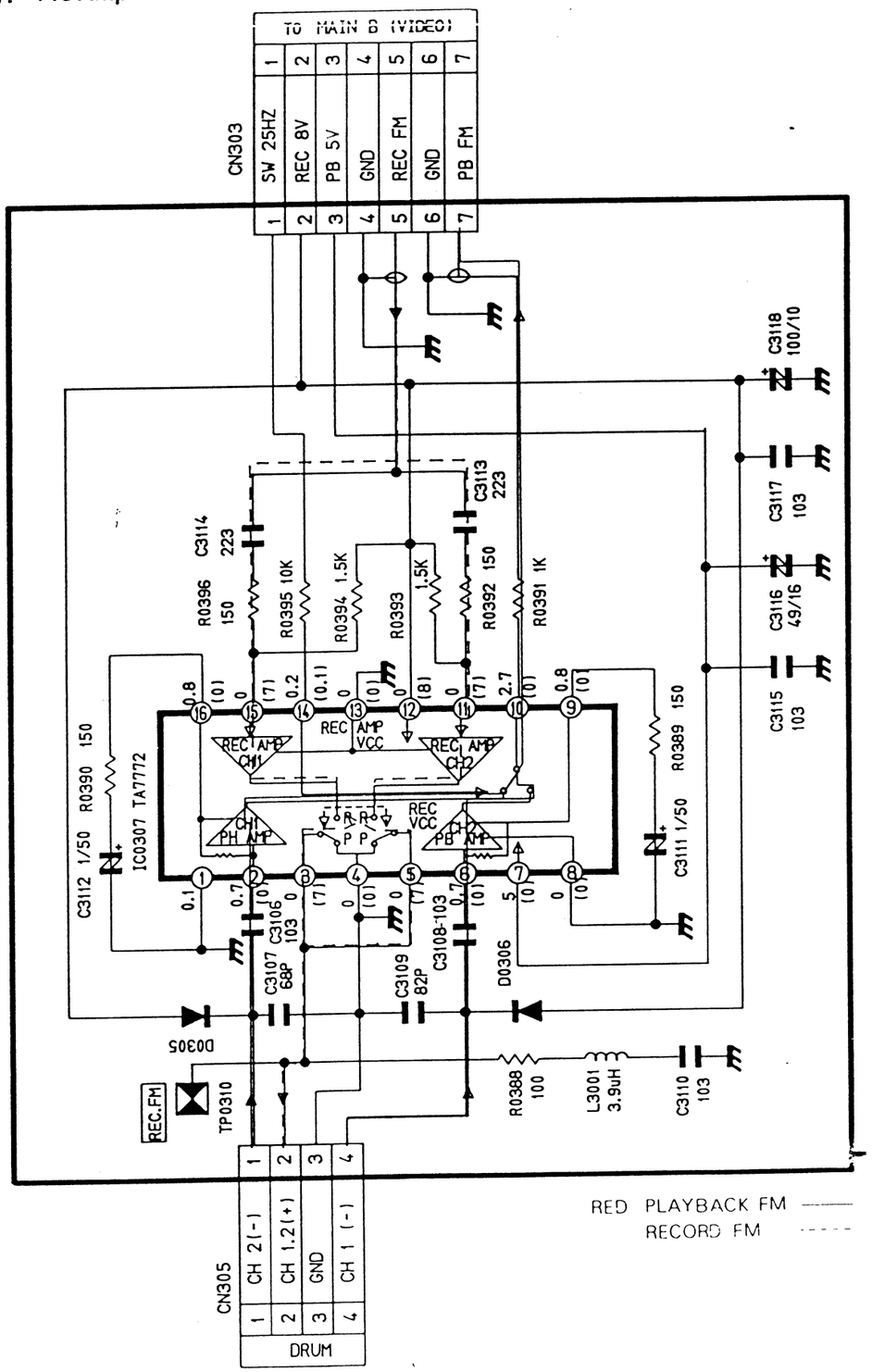
10-9 Timer/Input Key



10-10. Deck Joint



10-7. Pre-Amp



REV S. REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 401 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	5.8	5.8	5.8	5.8	5.8	5.8	5.8
PIN 2	5.8	5.8	5.8	5.8	5.8	5.8	5.8
PIN 3	3	3	3	3	3	3	3
PIN 4	4	4	4	4	4	4	4
PIN 5	4	4	4	4	4	4	4
PIN 6	0	0	0	0	0	0	0
PIN 7	4	4	4	4	4	4	4
PIN 8	4	4	4	4	4	4	4
PIN 9	6	6	6	6	6	6	6
PIN 10	6	6	6	6	6	6	6
PIN 11	9	9	9	9	9	9	9
PIN 12	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 13	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 14	0	0	0	0	0	0	0
PIN 15	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 16	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 17	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 18	4	4	4	4	4	4	4
PIN 19	9.0	9	9	9	9	9	9
PIN 20	5	5	5	5	5	5	5

Main (Tuner/Demodulator) C.B.A

REV S. REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 403 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 2	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 7	0.2	0	4	0.2	0.2	4	4
PIN 8	5.4	5.4	5.4	5.4	5.4	5.4	5.4
PIN 9	9.0	9	9	9	9	9	9

Main (Tuner/Demodulator) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 404 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 2	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 7	0.2	0	4	0.2	0.2	4	4
PIN 8	5.6	5.6	5.6	5.6	5.6	5.6	5.6
PIN 9	9.2	9.2	9.2	9.2	9.2	9.2	9.2

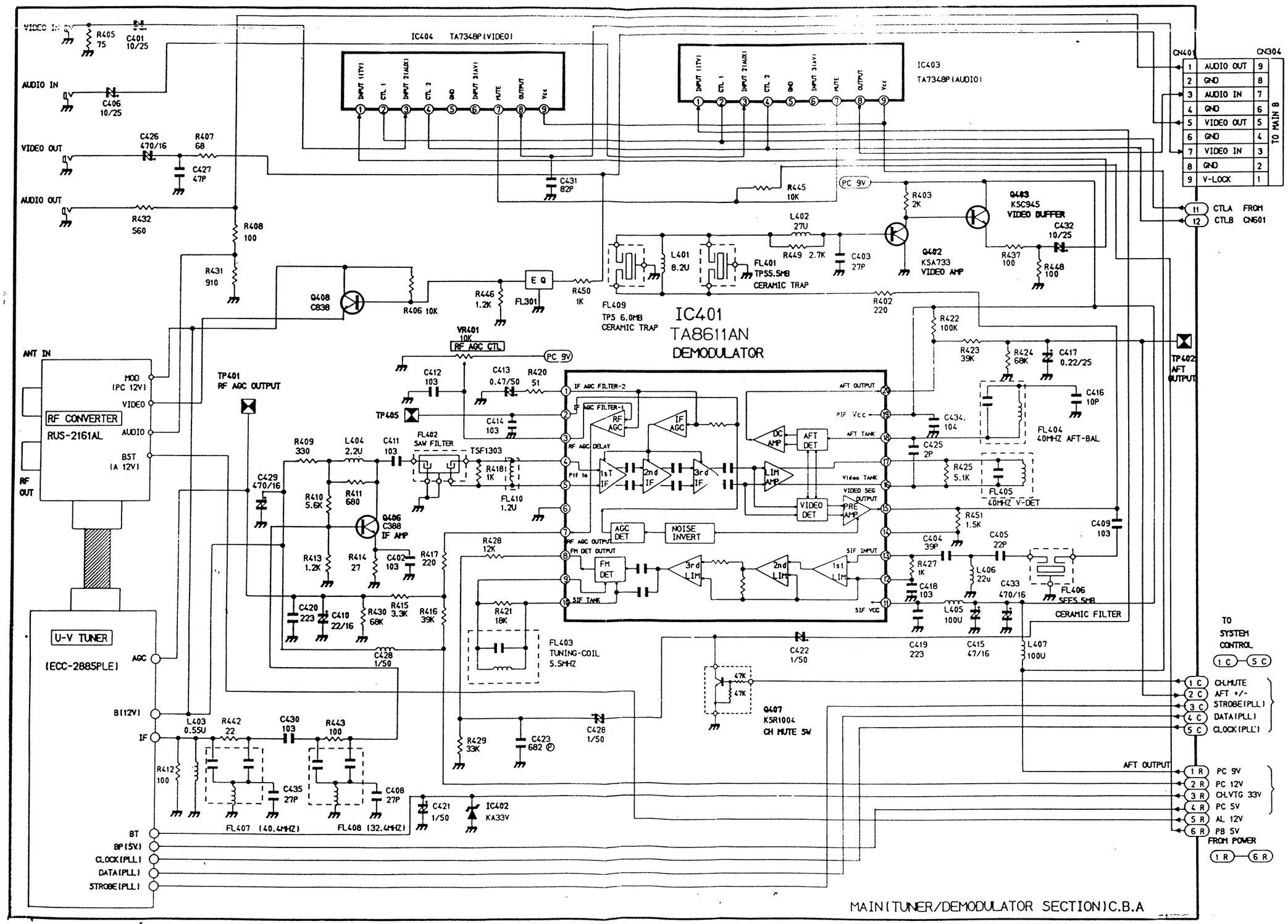
Main (Tuner/Demodulator) C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / TR NO.	STOP E	STOP C	STOP B	REC E	REC C	REC B	PLAY E	PLAY C	PLAY B	REW E	REW C	REW B	F. FWD E	F. FWD C	F. FWD B	REV. S E	REV. S C	REV. S B	FWD. E	FWD. C	FWD. B
Q 402	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2
Q 403	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4
Q 404	10	0	10	10	0	10	10	10	9.2	10	0	10	10	0	10	10	10	9.2	10	10	9.2
Q 405	0	10	0.2	0	10	0.2	0	0	5	0	10	0.2	0	10	0.2	0	0	5	0	0	5
Q 406	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2
Q 407	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0
Q 408	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4

Main (Tuner/Demodulator) C.B.A

10-8. Tuner


IC404 TA7348P(VIDEO)
IC403
TA7348P(AUDIO)
IC401
TA8611AN
DEMODULATOR
CN401
CN304
TO MAIN B
AUDIO OUT
GND
AUDIO IN
VIDEO OUT
VIDEO IN
V-LOCK
CTLA FROM
CTLB CN601
R405 75
C401 10/25
C406 10/25
C426 470/16
R407 68
C427 47P
R432 560
R408 100
R431 910
C431 82P
R445 10K
PC 9V
R403 2K
Q483 KSC945 VIDEO BUFFER
C432 10/25
R437 100
R448 100
L402 27U
R449 2.7K
C403 27P
Q482 KSA733 VIDEO AMP
L401 8.2U
FL401 TPS5.5MB CERAMIC TRAP
FL409 TPS 6.0MB CERAMIC TRAP
R402 220
Q408 C838
R406 10K
R446 1.2K
FL301
E Q
R450 1K
VR401 10K
RF AGC CTL
R422 100K
R423 39K
R424 68K
C417 0.22/25
TP402 AFT OUTPUT
ANT IN
MOD (PC 12V)
VIDEO
AUDIO
BST (A 12V)
RF CONVERTER
RUS-2161AL
RF OUT
TP401 RF AGC OUTPUT
C412 103
C413 0.47/50
R420 51
TP405
C414 103
IF AGC FILTER-2
IF AGC FILTER-1
RF AGC DELAY
PIF In
RF AGC OUTPUT
FM DET OUTPUT
SIF TANK
AFT OUTPUT
PIF Vcc
AFT TANK
Video TANK
VIDEO SEG OUTPUT
SIF INPUT
SIF VCC
C416 10P
C434 104
C425 2P
R425 5.1K
FL404 40MHZ AFT-BAL
FL405 40MHZ V-DET
R451 1.5K
C409 103
C404 39P
C405 22P
R427 1K
L406 22u
C433 470/16
C418 103
FL406 SFE5.5MB CERAMIC FILTER
L405 100U
C419 223
C415 47/16
L407 100U
C422 1/50
47K
47K
Q407 KSR1004 CH MUTE SW
R409 330
L404 2.2U
C411 103
FL402 SAW FILTER
TSF1303
R4181 1K
FL410 1.2U
C429 470/16
R410 5.6K
R411 680
Q406 C388 IF AMP
R413 1.2K
R414 27
C402 103
R417 220
R428 12K
C420 223
C410 22/16
R430 68K
R415 3.3K
R416 39K
C428 1/50
R421 18K
FL403 TUNING-COIL 5.5MHZ
R429 33K
C423 682 P
C428 1/50
U-V TUNER
(ECC-2885PLE)
AGC
B(12V)
IF
BT
BP(5V)
CLOCK(PLL)
DATA(PLL)
STROBE(PLL)
L403 0.55U
R442 22
C430 103
R443 100
R412 100
C435 27P
C408 27P
FL407 (40.4MHZ)
FL408 (32.4MHZ)
C421 1/50
IC402 KA33V
TO SYSTEM CONTROL
1C CH.MUTE
2C AFT +/-
3C STROBE(PLL)
4C DATA(PLL)
5C CLOCK(PLL)
AFT OUTPUT
1R PC 9V
2R PC 12V
3R CH.VTG 33V
4R PC 5V
5R AL 12V
6R PB 5V
FROM POWER
MAIN(TUNER/DEMODULATOR SECTION)C.B.A

REV S : REVERSE SEARCH
FWD S : FORWARD SEARCH

MODE / PIN NO.	IC 701 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	30	30	30	30	30	30	30
PIN 2	30	30	30	30	30	30	30
PIN 3	30	30	30	30	30	30	30
PIN 4	30	30	30	30	30	30	30
PIN 5	30	30	30	30	30	30	30
PIN 6	30	30	30	30	30	30	30
PIN 7	30	30	30	30	30	30	30
PIN 8	30	30	30	30	30	30	30
PIN 9	30	30	30	30	30	30	30
PIN 10	30	30	30	30	30	30	30
PIN 11	30	30	30	30	30	30	30
PIN 12	30	30	30	30	30	30	30
PIN 13	30	30	30	30	30	30	30
PIN 14	30	30	30	30	30	30	30
PIN 15	30	30	30	30	30	30	30
PIN 16	30	30	30	30	30	30	30
PIN 17	30	30	30	30	30	30	30
PIN 18	31.2	31.2	31.2	31.2	31.2	31.2	31.2
PIN 19	0	0	0	0	0	0	0
PIN 20	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 21	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 22	0	0	0	0	0	0	0
PIN 23	0.5	0.5	5.0	0.5	0.5	0.5	0.5
PIN 24	5.0	5.3	5.3	5.3	5.3	5.3	5.3
PIN 25	5.3	5.3	5.3	5.3	5.3	5.3	5.3
PIN 26	30	30	30	30	30	30	30
PIN 27	30	30	30	30	30	30	30
PIN 28	30	30	30	30	30	30	30

Timer/Input Key C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / Tr No.	STOP E	STOP C	STOP B	REC E	REC C	REC B	PLAY E	PLAY C	PLAY B	REW E	REW C	REW B	F.FWD E	F.FWD C	F.FWD B	REV S. E	REV S. C	REV S. B	FWD S. E	FWD S. C	FWD S. B
Q 701	0	5.0	0.5	0	5.0	0.5	0	5.0	0.5	0	5.0	0.5	0	5.0	0	0	5.0	0.5	0	5.0	0.5

Timer/Input Key C.B.A

REV S : REVERSE SEARCH
FWD S. FORWARD SEARCH

MODE / PIN NO.	IC 205 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
PIN 3	0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 4	2.3	14.8	14.7	14.7	14.7	2.2	14.7
PIN 5	5.0	14.7	5.0	5.0	5.0	5.0	5.0
PIN 6	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 7	15.0	14.8	14.8	14.7	14.7	14.7	14.7
PIN 8	15.0	14.8	14.8	14.7	14.7	14.7	14.7
PIN 9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 10	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Sub Servo C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / PIN NO.	IC 206 STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	0.5	3.9	2.1	0.1	10.1	0.1	9.5
PIN 3	0.9	5.2	3.5	0.9	11.7	0.9	10.9
PIN 4	1.2	3.7	1.9	10.3	10.2	10.0	9.0
PIN 5	5.0	5.0	5.0	0	5.0	0	5.0
PIN 6	5.0	0	0	5.0	0	5.0	0
PIN 7	14.9	14.8	1.48	14.7	14.7	14.7	14.7
PIN 8	14.9	14.1	14.2	13.8	13.8	13.8	13.8
PIN 9	0.9	0.9	0.9	11.8	0.9	11.0	0.9
PIN 10	0.5	0.1	0.1	9.9	0.1	9.3	0.1

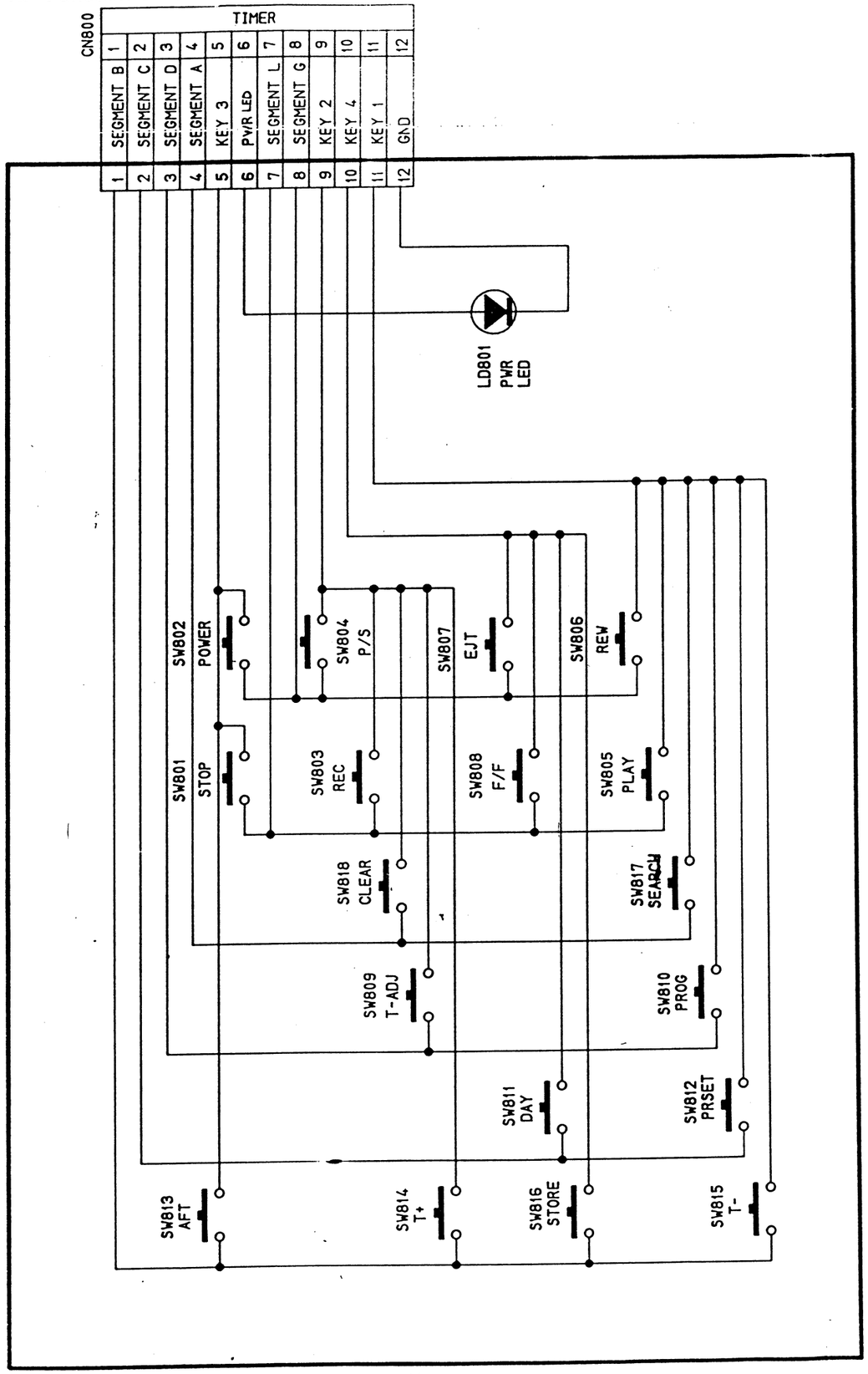
Sub Servo C.B.A

REV S. : REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE / Tr No.	STOP E	STOP C	STOP B	REC E	REC C	REC B	PLAY E	PLAY C	PLAY B	REW E	REW C	REW B	F.FWD E	F.FWD C	F.FWD B	REV S. E	REV S. C	REV S. B	FWD S. E	FWD S. C	FWD S. B
Q 204	0	0	4.9	0	14.7	0	0	14.7	0	0	14.7	0	0	14.7	0	0	0	4.9	0	14.7	0
Q 205	1.0	0	12.6	3.7	0	3.0	3.6	0	3.0	8.9	0	8.3	8.8	0	8.2	9.5	0	8.7	9.3	0	8.6
Q 208	14.9	2.2	14.9	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	2.2	14.7	14.7	14.7	14.7
Q 209	0	5.1	0.1	0	–	–	0	–	–	0	–	–	0	–	–	0	–	–	0	–	–

Sub Servo C.B.A

10-11. Function Switch



10-12. Remote Control